Oil, Paint and Drug Reporter

100 William Street ~ New York City

1871

Fiftieth Anniversary Number

1921

ISAAC TYSON JR.
1792 ~ 1861
FOUNDER OF THE BICHROMATE INDUSTRY
IN THE UNITED STATES AT OUR
BALTIMORE WORKS IN 1845

MUTUAL CHEMICAL CO. OF AMERICA
NEW YORK, N.Y.
CABLE-BICHROME

BICHROMATE OF SODA-BICHROMATE OF POTASH

FACTORIES
JERSEY CITY, N.J. – BALTIMORE, MD.

50th Anniversary

Volume 101 - Extra Edition - March 28th 1922 - Number 14

Glycerine

Shellac

MARX & RAWOLLE, Inc.
100 WILLIAM STREET
NEW YORK

125 ANN STREET
CHICAGO, ILL.

MARX & RAWOLLE of Canada, *Ltd.*
516 ST. AMBROISE STREET
ST. HENRI MONTREAL

Oil, Paint and Drug Reporter

VOLUME 101. NUMBER 14 TUESDAY, MARCH 28, 1922 100 WILLIAM ST., NEW YORK

FIFTY YEARS OF PROGRESS 1871—1921

The Oil, Paint and Drug Reporter ended its fiftieth year with the issue of October 17, 1921. As the semi-annual volumes had been synchronized with the calendar years, however, the one-hundredth volume was only completed by the last issue in 1921. To mark the ending of this half century, the present extra number is designed to furnish, in addition to the statistical and other reports of the past year which it has been our custom to issue in a "Year Book," a succinct review of the fifty years' progress in the trades and industries for which the paper has been the acknowledged spokesman during the entire period of its existence.

If the age-ratio as shown by the census of population applies equally to the present readers of the Reporter, less than one-fifth of them had been born when the first number of the paper appeared, and only a minority of them can have a personal knowledge of the events of even the first quarter of a century of its existence, which to them are merely traditions that are not easily visualized. To those who participated in the history of that period, its progress came in such orderly procession as to make it seem a natural evolution with few outstanding mileposts. It requires a moment's retrospective thought to enable one to realize that well within the period of which we write business was conducted without the aid of the telephone or the typewriter; passenger elevators were not to be found in business buildings, very few of which exceeded four stories in height, and most of which were heated by stoves, or that "rapid transit" in most cities did not exceed the rapidity and comforts of the horse-car. It was after 1871 that elevated roads permitted the use of steam on the city streets and another decade had nearly passed before electric power was employed on surface lines. The progress itself is best shown, and rendered more comprehensible, by a comparison of conditions as they existed in 1871 with those of 1921.

Some Comparisons

At that time the population of the United States was 40,000,000 people, of whom 14 per cent. were foreign born; today it is 110,000,000 with about the same percentage of foreign born, although but for the practical stoppage of immigration by the war, from 1914 to 1918, and the return of thousands of aliens to their native countries during that period, the percentage shown by the last census would have been very much higher. These figures embrace both the cause and effect of the industrial growth of the country and the expansion of its domestic and foreign commerce. The increase of population through immigration has increased the domestic consumption of all commodities, while the more abundant supply of labor which this immigration has afforded has, in turn, added to the productive capacity of the country and helped to place it among the larger exporters of manufactured articles no less than of its natural products.

The foreign commerce of the United States for the fiscal year 1871 was $963,043,862, and in 1915, before conditions had been rendered abnormal by the war, it was $4,442,750,085. Any comparison by values since that date would be misleading, because of the great advances in prices especially in our articles of export, but incidentally it may be stated that in 1921 it amounted to $10,170,764,776.

While most of the steamships built during the preceding decade had been of iron and equipped with screw propellers, no steel vessel was built until after 1871, and the side-wheelers were still in use on some of the ocean lines. The lowest speed record between New York and Queenstown was that made by the "City of Brussels," then new, in 1869, and was 7 days, 22 hours, 30 minutes. The lowest record today is that of the "Mauretania," 4 days, 10 hours, 41 minutes, in 1910, but the ordinary time of passage is still over 5 days. Few ocean steamships of 1871 were more than 300 feet in length or reached a tonnage of 3,000 tons. The largest of them afloat today reach over 50,000 tons, with a length of over 900 feet, and there are more steamers on the Atlantic exceeding 10,000 tons than there were exceeding 1,000 tons in 1871. At that time a steam locomotive weighing 50 tons was more exceptional and a greater curiosity than one of 200 tons is today, and the 75 to 100-ton locomotive is now as common as the 25-ton machine of 50 years ago.

The apartment house, as we know it today, was unknown in American cities, the first approach to it in New York city having been made in the spring of 1871 when a house ranking above the tenement and known as a "French flat" because the design was taken from the multiple-family houses common in Paris was erected in Thirtieth street.

The telephone had practically no commercial existence until 1876, Prof. Alexander Graham Bell having given a public exhibition of his invention at Salem, Mass., in February of that year.

Typewriting machines came into use in 1874, but it was some years later before the typist and stenographer became the indispensable features of business that they are today. The day of the scrivener was drawing to a close before the 80's, however, and within that decade it was recognized that the day's correspondence could be gotten out and the office force released before 7, 8 and 9 o'clock, as had been necessary under the old system—the hour for final closing depending somewhat upon the gossiping proclivities of the principals.

Self-propelled vehicles for streets were unknown, and although foreshadowed in Mother Shipton's prophecy and by some steam-driven inventions which came trailing along through the century and promptly passed into oblivion, they were not dreamed of as a practicality until near the dawn of the twentieth century.

The "Velocipede" of 1871 was a clumsy wooden vehicle propelled by direct pressure on pedals attached to the driving wheel, the circumference of which limited the speed obtainable. It was a toy rather than a vehicle having any practical utility and had not risen even to the importance of a factor in popular sports. The utilitarian purposes to which the bicycles of today are applied were not thought of.

Changing Business Conditions

The changed conditions which these few comparisons reflect have been coincident with equally striking changes in commercial

THE WHITE HOUSE
WASHINGTON

February 27, 1922.

My dear Sir:

As a veteran newspaper man, I am taking occasion to address just a word of congratulation to one of the oldest and most widely known trade papers in the country, on the celebration of its Fiftieth anniversary. I have known the Oil, Paint & Drug Reporter for many years and have much pleasure in extending my felicitations on this occasion.

Very sincerely,

Warren G. Harding

The Editor
The Oil, Paint & Drug Reporter
100 William Street
New York City.

Felicitations from President Harding

OIL, PAINT AND DRUG REPORTER

ESTABLISHED 1871.

The following publications are incorporated in the OIL, PAINT AND DRUG REPORTER: DRUG, PAINT AND OIL TRADE, NEW YORK DRUG BULLETIN, NEW YORK DRUGGISTS' PRICE CURRENT, SOAP MAKERS' JOURNAL, OIL AND PAINT REVIEW, WEEKLY DRUG NEWS.

Mailed every Saturday, under publication date of the following Monday, by the OIL, PAINT AND DRUG REPORTER, at 100 William Street, New York. William O. Allison, President; Harry J. Schnell, Vice-President; D. G. Bogert, Secretary.

SUBSCRIPTION TERMS.—For the United States, $5.00 per annum; Canada, $7.00; other foreign countries, $10.00. All remittances should be made payable to the OIL, PAINT AND DRUG REPORTER, Inc.

ADVERTISING RATES furnished upon application.

QUESTIONABLE OR UNDESIRABLE ADVERTISEMENTS WILL NOT BE ACCEPTED.

Entered at the Post Office at New York as second-class matter under the Act of Congress of March 8, 1870.

The contents of this issue of the OIL, PAINT AND DRUG REPORTER *are fully protected by copyright. All rights reserved.*

SPECIAL NOTICE.—This issue of the Oil, Paint and Drug Reporter is an extra number, and is sent to all subscribers without additional charge.

CONTENTS OF THIS ISSUE

Fifty Years of Progress, 1871-1921.... 3
Letter from Warren G. Harding, President of the United States..... 3
The Reporter in History..... 7
Letter from Herbert C. Hoover, Secretary of Commerce of the United States..... 7
IMPRESSIVE RECORD OF THE PAST 50 YEARS IN REPORTER INDUSTRIES:—
- Some of the Notable Events in American History Since 1871..... 9
- Some of the Growths in 50 Years... 15
- Customs Tariff Changes in 50 Years. 15
- Transportation Facilities of 50 Years Ago..... 15
- Progress in Letter Filing..... 15
- From Chemical Manufacturing to Banking..... 17
- Ancient and Modern Elevators and Buildings..... 17
- Oil Men Had Big Part in Developing Typewriter..... 17
- Reminiscences of the Petroleum Industry..... 25
- Romantic Story of American Fertilizer Industry..... 25
- Reminiscences of the Paint and Chemical Trade..... 25
- History of Petroleum in Commerce.. 27
- Past and Present Output of Lead Pigments..... 29
- The History of Naval Stores..... 29
- When There Were No Telephones.. 29
- Manufacture of Bichromates, Then and Now..... 31
- Features of Half Century in the Drug Trade..... 31
- Comprehensive Statistics of Lead and Zinc Production..... 33
- Introduction of Kerosene No Easy Matter..... 33
- Failure Record of Half a Century.. 33
- How the Postal Service Has Grown.. 33
- Smyrna Opium History, 1872-1922... 39
- Peppermint Oil Industry in Michigan... 39
- Half Century's Review of the Vegetable Oil Market..... 39
- Vicissitudes of the American Animal and Fish Oil Markets..... 41
- Outline of Natural Dyestuffs Market for 50 Years..... 41
- Ups and Downs of American Flaxseed Crop..... 41

STORY OF REPORTER TRADE ASSOCIATIONS:—
- New York Linseed Association..... 17
- National Fertilizer Association..... 17
- National Wholesale Druggists' Association..... 19
- State Pharmaceutical Associations.. 19
- Paint Manufacturers' Association... 19
- National Varnish Manufacturers' Association..... 21
- National Paint, Oil and Varnish Association..... 21
- Interstate Cottonseed Crushers' Association..... 23
- Manufacturing Chemists' Association. 23
- American Drug Manufacturers' Association..... 23

Developing an American Dyestuffs Industry, by William R. Corwine, Secretary American Dyes Institute..... 35
Canada's Progress in Industrial Chemistry, by S. J. Cook, Chief of the Mining, Metallurgical and Chemical Branch, Dominion Bureau of Statistics, Ottawa, Canada..... 35
Statistics of Chemical, Paint and Varnish, Oil, Dyestuff, Tanning Material and Fertilizer Production for the Last 50 Years, by Decades.....43-45
America and the International Petroleum Situation, by H. Foster Bain, Acting Director, U. S. Bureau of Mines..... 45
HIGH AND LOW PRICE STUDIES OF OIL, DRUGS AND CHEMICALS, 1871-1921.....47-83
Norwegian Cod Liver Oil..... 83
Vegetable Oil Industry of Great Britain... 85
Development and Production in the Talc Industry of Italy..... 85
Japan's Potash Industry During the War.. 87
The Japanese Fertilizer Industry, Past and Present..... 87
Historical Resume of the Petroleum Industry in Japan..... 87
Developing a Chemical Industry in Japan.. 89
Dye Industry of Nippon Expanded Greatly in War Years..... 91
Paint Manufacturing in Japan Has Interesting Record..... 91
FIFTY-YEAR RECORD OF IMPORTS INTO THE UNITED STATES, 1871-1921.....93-110
DOMESTIC EXPORTS FROM THE UNITED STATES FOR THE 50 YEARS, 1871-1921.....110-113
HISTORICAL SKETCHES OF FIRMS IN THE REPORTER TRADES THAT CAN BOAST OF AN EXISTENCE OF 50 YEARS AND LONGER.....114-122

INDEX TO ADVERTISERS

Abbott Laboratories, The..... 34
American Acid Company..... 30
American Hydro Carbons Company..... 88
Arnold, Hoffman & Co., Inc..... 32
Baker & Bro., H. J..... 50
Baker Castor Oil Co., The..... 40
Barber Company, W. H..... 82
Benkert & Co., Inc., W..... 30
Binney & Smith Company..... 80
Binswanger & Co., Inc..... 84
Borne, Scrymser Company..... 62
Briggs-Maroney Co., Inc..... 88
Calco Chemical Company, The..... 22
Chadeloid Chemical Company..... 76
Chatfield Manufacturing Company..... 20
Cook & Swan Co., Inc..... 68
Digestive Ferments Co..... 40
Eimer & Amend..... 34
Elim Dyewood Factory, The..... 26
Falk Company..... 66
Fritzsche Brothers, Inc..... 60
Gray & Co., William S..... 52
Gulf Refining Co..... 64
Haines, E. H..... 90
Hance Brothers & White, Inc..... 44
Hinrichs Chemical Corp., Hans..... 28
Huisking, Inc., Chas. L..... 54
Innis, Speiden & Co., Inc.....6-8
Knight, Maurice A..... 10
Kohnstamm & Co., H..... 72
Lehn & Fink, Inc..... 58
Lilly & Co., Eli..... 48
Lucas & Co., Inc., John..... 86
Marx & Rawolle, Inc.....Inside front cover
Mathieson Alkali Works, Inc., The..... 18
Merck & Co..... 32
Merrimac Chemical Company..... 28
Metz & Co., Inc., H. A..... 24
Meyer Brothers Drug Company..... 42
Moore & Co., Benjamin..... 78
Mutual Chemical Co. of America...Front cover
National Aniline & Chemical Co., Inc..... 14
Pacific Coast Borax Company.....Back cover
Page & Co., Ltd., Chas..... 36
Pecora Paint Company..... 70
Penick & Co., Inc., S. B..... 44
Peters, White & Co., Inc. ....Inside back cover
Pfizer & Co., Inc., Chas..... 46
Powers-Weightman-Rosengarten Co..... 56
Proctor & Schwartz, Inc..... 92
Ruhm, H. D..... 38
Schering & Glatz, Inc..... 36
Speiden-Whitfield Co., Inc..... 26
Union Sulphur Company, The..... 38
Wadsworth, Howland & Co., Inc..... 86
Welch, Holme & Clark Co., Inc..... 62
Westmoreland Chemical & Color Co., The.. 74
Whitelaw Brothers Chemical Co..... 12
Wiarda & Co., Inc., John C..... 16
Wilckes-Martin-Wilckes Co..... 94
Winkelman & Co., L. L..... 84
Woolsey Paint & Color Co., C. A..... 90
Zinsser & Co., Inc., William..... 42

methods, and in the volume of business which they have helped to make possible. There are fewer factors in business, and the consumer has been brought into closer relations with the producer. Merchandize brokers, hundreds of whom found profitable employment fifty years ago, exist in small numbers today, and while the jobber must always remain as a necessary economic link in the distribution of goods which reach consumers through retail channels, he now combines in a large degree with the functions of distributor, those of manufacturer, importer and commission merchant. The popularizing of their products by well advertized trade-marks has been necessary to keep alive many manufacturers who formerly depended wholly upon the good-will of distributors for an outlet, and never aimed at that at least partial independence of competition which the creation of a popular demand for their products has afforded them. Not only in shelf goods in all lines of trade, but in the staples ordinarily sold in bulk, the advertised trade-mark now compels the distributor to carry many more lines of the same commodity than he did much less than fifty years ago, and he must purchase them at a price in the fixing of which competition plays a part largely beyond his control.

The Drug and Paint trades afford notable examples of these changed conditions, which have transformed the stock carried by dealers from crude materials into finished products in packages adapted to distribution without breaking bulk, and selling at prices fixed by their manufacturers. That the margin of profit which distributors who were not hampered by competition or were, through their qualifications as merchants, able to make, has been lowered to some extent by the transformation, is doubtless true, but the expense of handling has also been reduced and the volume of business that has been created by popularizing commodities as well as brands has not been without its compensations to the distributor. To some extent these conditions have invaded other branches of the trades represented by the REPORTER, but in most of them consumption is mainly by large industries and the changing conditions have tended rather toward the elimination of the jobber and bringing producer and consumer into direct relations.

Notable changes in the uses of certain oils, the development of new sources of supply and practical abandonment of others are told by any history of the Oil Trade since 1871. The history of the Petroleum industry is encompassed within a period extending but a decade prior to that year. As every demand upon the resources of nature is met somehow by new sources of supply or by substitutions made possible by science, it is idle to speculate upon what would have occurred had petroleum not been discovered or its adaptability to the varied uses to which it is now put been demonstrated. But it is, nevertheless, inconceivable that the large part it has played could have been filled by any or all of the animal or vegetable products for which it has proved so acceptable a substitute, and over which it has shown so many points of superiority.

For many years the sea was the chief source of supply for oils for burning and lubrication. Lard oil became an alarming competitor when its fitness for new uses was discovered, before the middle of the last century, but whale and sperm oil again asserted themselves and this industry, so replete with romance and adventure, grew until it began, early in the '60's, gradually to give way to the mineral products. Other fish oils more readily obtainable were only saved from disuse by the work of the chemist in fitting them for other purposes than those which they had so long and well served.

The list of vegetable oils then in use was limited when compared with that which now constitutes one of the leading features of our market reports. Cottonseed oil was struggling for recognition in 1871, and has since developed an industry of huge proportions, while many other oils that had their origin in the seeds of Far Eastern growth and were then unknown here, have become of great commercial importance.

Drugs, dyes and chemicals were articles of commercial rather than industrial importance in the United States fifty years ago. Natural dyewoods were converted into extracts on a considerable scale, but the synthetic products which have since dominated the markets of the world were but little known and their manufacture had no recognized place among American industries. The manufacturing chemist was well established, but heavy chemicals were produced here on only a very limited scale. The manufacturing pharmacist and the pharmaceutical chemist as we know them today, who have led rather than followed the physician and surgeon into paths that were then scarcely blazed, have, since 1871, established a distinctive American industry, and have added beyond the power of human estimate to the armamentarium of those whose office it is to alleviate physical suffering.

Evolution and Invention

It is no disparagement of the inventive genius of those who have contributed to the world's industrial progress during the last fifty years, to say that it has been marked more by evolutionary development and wider application of previous inventions and discoveries than by the basic inventions of the period itself. As a mechanical device, Watt's steam engine may be deemed the progenitor of the gasoline engine, which became a practicality in 1876 and from which has been evolved, although by the aid of new principles, the seemingly perfected internal combustion engine that has revolutionized vehicular propulsion on land and water, and even made possible the dream of ages—aerial navigation. The practical application of electricity by Morse in his electric telegraph offered the suggestion that brought forth the telephone and even wireless telegraphy. Daguerre's invention, early in the last century, made possible, and by a process of evolution which now seems to us to have been only natural, has developed the marvelous achievements of the camera that we enjoy today. The high explosives which, within the period covered by the publication of the Reporter, have so greatly enriched the peaceful arts, and during the last decade have added so appallingly to the horrors of war, had their genesis in the invention of gun-powder at a time too remote to be of historical record. To this may be added as of transcendent commercial importance the isolation of a single dye from coal tar by Perkin in 1856, which was the nucleus of an unparalleled industrial development that in the last fifty years has displaced with synthetic colors the natural dyes that for centuries had not only contributed to the decorative arts and figured large in the world's commerce, but had afforded the theme of romantic song and story.

All of this progress has come gradually, and while it has been noted from time to time, few of us realize how wide a difference there is between the conditions so familiar to us today and those that existed only half a century ago.

And yet, evolutionary and developmental though it may have been, this progress has been achieved only through the exercise of brilliant inventive genius and the highest order of human intelligence in tireless research.

The Chemists' Part

The mechanical engineer and the chemist vie with each other in their accomplishments in behalf of industrial upbuilding, and to them, whatever may have been the inspiration of the achievements of those who preceded them, is due in largest measure its progress during the last half century. Within that period chemistry has come to be appreciated as the handmaiden of industry, more than ever before, and its wonderful achievements may justly inspire something akin to the awe with which the mysticism of the art of the alchemist was regarded. In every branch of the industrial arts, and in medicine no less, chemical research has been a potent factor. What pages of progress it is yet to unfold we can only faintly dream. The unlocking of that veritable Pandora's box of art treasures which coal tar has proved to be has placed the name of Perkin among the highest of those whose fame is linked with the great accomplishments of the nineteenth century. The discovery of radium by Mme. Curie may be of less potential value to industries or to commerce, but its benefits to humanity already loom so large as to establish it as an epoch-marking incident in the progress of the century in which it was given to the world. The invention of a Belgian chemist, Solvay, had begun to show a revolutionary effect upon the alkali trade by the time the REPORTER was first issued, and his later work, as well as that of the English chemist, Mond, had, before 1880 dawned, worked a complete revolution in that industry. Supplemented as these inventions have been by those which electro-chemistry has made possible, they have led to the development of a chemical industry in the United States of such proportions as to render it independent of foreign sources of supply to a degree that could not have been dreamed fifty years ago. Measured by its economic results, the invention relating to the mining of sulphur by Frasch, combining the genius of the mechanical engineer with that of the chemist, has an acknowledged place in the forefront of industrial accomplishments of the past fifty years, and has exercised a revolutionary influence upon the commercial history of the period.

The work of those whose names we have recorded, and they constitute but a small though conspicuous minority of that great body of chemists and engineers whose contributions to the progress of the half century have gained for them a place among the world's benefactors in their generation, has had its influence far beyond the industrial field in which it was exerted, and its inspiration will be manifest in fields whose tillage has as yet hardly begun.

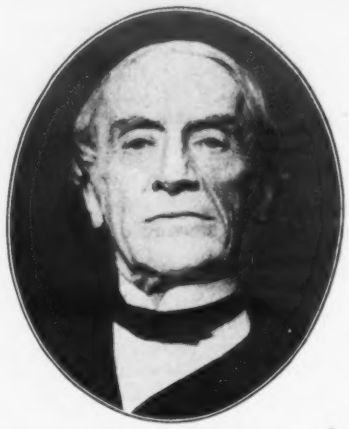
The effects of their work as well as that of others will be more specifically covered in the following pages in the reviews of the industries to which they relate.

Significant Personal Changes

Changes in the personnel of the trades represented by the REPORTER have not been more numerous since 1871 than could be expected to occur in such a period of time, but, naturally, few remain of those who were actively engaged in business fifty years ago. Death has taken its normal toll, not only of those of that remote date, but of those who came upon the stage during the intervening years. The retirement of such as success has permitted voluntarily to put aside the cares of business, or those upon whom it has been enforced by misfortune, has removed from the muster-rolls the names of many who once were prominent in the conduct of these trades. Others whose names no longer appear in connection with the business with which they were conspicuously identified are still active in their affairs, but have lost their identity in the consolidations that have occurred through the merging of firms, the incorporation of businesses and the adoption of commercial titles rather than the use of personal names. In the 25th anniversary number of the Reporter published in 1896, there is a list of dealers in drugs, chemicals, dyes, paints and oils in New York, copied from the business directory of 1871, which gives 446 names, of which only 57 still appear in the titles of business houses in existence here today. There are, of course, more than that number in business, but their identity is lost through changes in names or the elimination of their old firms.

During the '70's the passage of limited liability laws encouraged the incorporation of many firms as a means of giving their members a legal status which simplified the settlement of estates and rendered the withdrawal of partners, by death or otherwise, a less serious menace to the perpetuation of the business. But the popular conception of a corporation had been based on the traditions that had come down from the days when those organizations had proved to be soulless in their treatment of competitors, employes or even their own stockholders, and they were by no means favorably regarded. With the increased number of incorporated businesses there came, as a means of controlling competition, a tendency toward further consolidation in the form of "trusts," and within the memory of most of the readers of the REPORTER today, the earlier antipathy to "corporations" has been transferred to "trusts," and they have become the object of

1816
Mature Experience



GEORGE INNIS
1822—1903

1922
Modern Methods

Historical Sketch of an Organization Spanning One Hundred and Six Years of Continuous Service in the Field of

INDUSTRIAL CHEMICALS

Historical Data

ONE HUNDRED AND SIX YEARS AGO, in 1816, Aaron Innis, providing Nathan Gifford with the necessary capital, to start a Dyewood Cutting Mill at Poughkeepsie-on-the-Hudson, first became actively interested in the Industrial Chemical World.

To safeguard his investment, he installed his son-in-law, Howland Sherman, as General Manager, who conducted the business under the style of Gifford, Sherman and Innis, with a New York warehouse as chief distributing headquarters.

Aaron Innis, dying in 1844, his eldest son George, abandoned a college career to learn the business in which his Father's Estate held the controlling interest.

Howland Sherman died in 1858, when George Innis became the sole owner, operating under the old firm name.

In 1885, Hasbrouck Innis, son of George, with William R. Innis, son of Aaron, 2d, acquired the business, changing the name to Innis & Company, under which style it continued until 1906, the name and good will meanwhile having been purchased in 1904 by George V. Sheffield.

In 1906, the company was reorganized and incorporated under the name of Innis, Speiden & Company; C. C. Speiden, together with George V. Sheffield, securing a controlling interest, the business was modernized and greatly enlarged.

Since that time the company has continued and accelerated its development. It has acquired and remodeled the 46 and 48 Cliff Street Buildings as the main offices of the Company, with branches in the principal American industrial centers and with agencies in London, Hamburg and Barcelona. They have acquired also important interests and sole Selling Agencies of Factories in Jersey City, Niagara Falls, Owego and Murphysboro. The present directors are as follows: C. C. Speiden, George V. Sheffield, W. H. Sheffield, C. C. Wickstead, Eben C. Speiden.

A Few Important Historical and Scientific Events Within This Cycle of Time

1816—Napoleon at St. Helena following Battle of Waterloo a few months before.
1816—Second United States Bank Chartered.
1818—Berzelius suggested the Electro Chemical Theory.
1821—Death of Napoleon at St. Helena.
1822—Ampere founded Electro Dynamics.
1823—The enunciation of the Monroe Doctrine.
1824—Lafayette visited America.
1840—President Van Buren's Independent Treasury Act.
1840—Goodyear first vulcanized Rubber.
1840—Fritzsche produced aniline by distilling Indigo with Caustic Potash.
1844—First practical use of Magnetic Telegraph between Baltimore and Washington.
1846—War with Mexico.
1848—Gold discovered in California.
1858—Lincoln-Douglas debates.
1859—Darwin published "Origin of Species."
1861—Bombardment of Fort Sumter, beginning of Civil War.
1861—Solvay successfully carried out Ammonia-soda process.
1861—Glover introduced the Tower named after him into Sulphuric Acid manufacture.
1865—Civil War concluded—Death of President Lincoln.
1866—Laying of first Atlantic Cable.
1868—Graebe and Lieberman prepared a Synthetic Madder (Alizarine).
1870—Franco-Prussian War.
1871—Oil, Paint and Drug Reporter founded.
1878—Baeyer Synthesized Indigo.
1885—Treaty with Colombia establishing protectorate over Isthmus of Panama and control of Panama Canal project.
1892—Grover Cleveland elected President.
1893—Gold standard definitely established by repeal of Sherman Silver Purchase Bill.
1894—Russian-Japanese War.
1898—Sinking of the Maine—Spanish-American War.
1913—Woodrow Wilson inaugurated.
1914—Federal Reserve Bank established.
1918—World War hostilities ceased along the Battlefront in Europe.
1921—Washington Disarmament Conference.

"STILL ON THE JOB"

INNIS, SPEIDEN & COMPANY, Inc.

MANUFACTURERS, IMPORTERS, EXPORTERS

46 CLIFF STREET NEW YORK CITY

FACTORIES

NIAGARA FALLS, N. Y. JERSEY CITY, N. J. OWEGO, N. Y. MURPHYSBORO, ILL.

See Page Eight

much restrictive legislation, and governmental regulation by the States as well as by the Federal lawmaking and executive bodies.

Effects of Consolidation and Association

That such power as had been gained by many of the industries through the consolidation of their mental, as well as physical resources, should be free of abuses, is not thinkable if we recognize the frailties of human nature that all history records and our everyday experience confirms. It is none the less true, however, that the consolidation of capital, of industrial and commercial facilities and of human effort, has aided greatly in the progress of this country and of the whole world. Labor has been uplifted no less by these organizations than by its own, because they have afforded the means of permitting it to share more largely in the profits of industry, although they may have resisted more effectively than individuals could the illusory and unreasonable demands which demagogic leaders have endeavored to inspire among all classes of wage earners. The welfare work undertaken by large corporations and now so widely adopted by smaller employers is an outstanding feature of industrial progress during the period we are reviewing. These efforts have been codified to a considerable extent in salutary laws—Municipal, State and National—although the politician in his desire to appeal to the voter has caused to be enacted many laws which are without practical moral or financial benefit to those whom they were intended at least to appear to aid. The result has been that the wage earner has largely lost his sense of responsibility under the law, and of his obligation to render a full equivalent for what he demands from those who make his employment possible. But there are signs that the relations of capital and labor, like the relations of competing industries, will in the future tend toward a more peaceful and profitable co-operation than has characterized them during the last fifty years —or even a much more extended period—for the conflict between capital and labor was an old, old story when this paper was born.

An outstanding feature of the commercial history of the fifty years has been the formation of associations of manufacturers as well as of merchants, competing in the same lines of business. Not for the purpose of suppressing competition, but for the uplifting of their callings, by the frank discussion of questions in which they had common interests, the elimination of trade evils, and, most of all, for the promotion of better personal relations. The effect of this has been to lessen the asperities of competition, to create a feeling of friendliness among competitors, and to disprove the old proverb that "two of a trade never agree." The trades represented by this paper have afforded some of the earliest and most prominent of these organizations, whose careers are reviewed separately in detail in the following pages.

THE REPORTER IN HISTORY

When the OIL, PAINT AND DRUG REPORTER was started, in 1871, its proprietor, who heads the present publishing company, performed unaided all of the work required to issue the paper, except the typesetting and press work. He was publisher, editor, reporter, solicitor, bookkeeper, collector and mailing clerk, and personally delivered the paper on the morning of its publication to his local subscribers. But the success of the venture soon made it a physical impossibility for him to fill all of these positions, and gradually the minor ones were entrusted to assistants.

It was originally issued on Wednesdays and consisted of four pages of four columns each, the dimensions being the same as those of the present number. Enlargements, involving a change of the size of page, occurred in December, 1871; July, 1872; February, 1873; September, 1873; July, 1874, and April, 1875, or six in all. The last change, however, brought the size of the page back to that of the original publication, where it has since remained, the necessary increase of space from time to time being accomplished by the addition of four pages or more as the requirements dictated. Another desirable change was made when the second volume of 1878 was issued, and the volumes were then synchronized with the calendar half-year.

DEPARTMENT OF COMMERCE
OFFICE OF THE SECRETARY
WASHINGTON

February 16, 1922

The Editor,
Oil, Paint & Drug Reporter
100 William Street
New York City

My dear Sir :

On the occasion of its fiftieth anniversary, I congratulate the Oil, Paint and Drug Reporter on the high place it has attained among the Trade Journals of America. Its enviable position is the deserved reward of a service to the chemical and related industries which at all times has been ably and faithfully rendered.

Yours faithfully,

Herbert Hoover

HH.A

Congratulations from Secretary Hoover

When the REPORTER was first issued there were already five papers in the field specializing more or less thoroughly in the markets this publication was designed to cover. Their reports, however, were compiled and written by men who had little, if any, understanding of the significance of market conditions or, if they had, were afraid to interpret them with intelligent frankness. It was this shortcoming in the existing channels of public information that, in the judgment of the youthful founder of this journal, made an opening for such a publication as he purposed furnishing. That his vision was justified, the results soon showed. Not only did this paper succeed upon its own merits in the face of long-established competition, but the competitors fell by the wayside through inability or failure to keep pace with the progress in commercial methods which this publication had already made manifest. As early as December 10, 1874, the name of the New York Druggists' Price Current was added to that of the REPORTER. February 24, 1875, the Drug, Paint and Oil Trade, of Philadelphia, was also added, its own editorial announcement being to the effect that the publishers were also publishers of the Metal World, to which they desired to give all their attention, and so had "determined to consolidate the Drug, Paint and Oil Trade with a journal which could not fail to give satisfaction to subscribers and advertisers, and which had so frequently been quoted to them by merchants as the authority in the trade." April 14, 1875, the New York Drug Bulletin was annexed.

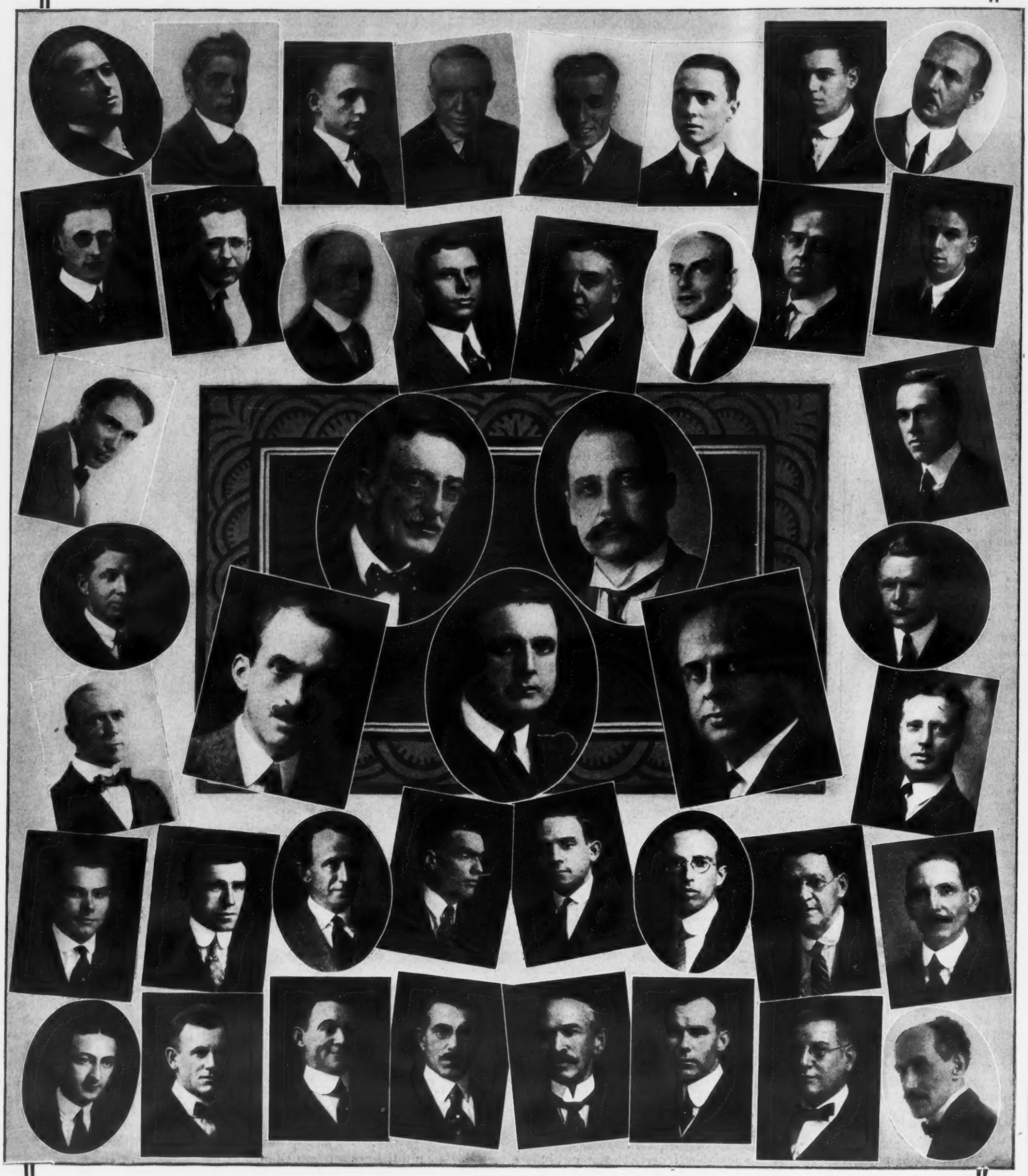
In its issue for March 27, 1883, the Oil and Paint Review, of New York, announced that it would thenceforth appear only as a part of the OIL, PAINT AND DRUG REPORTER. The Review was a weekly of considerable size and influence, yet smaller than the REPORTER and was in its fifth volume.

From that day to the present the growth of the paper has been rapid and vigorous. A few years ago the twenty-six regular numbers which, with special issues constitute a semi-annual volume, had so increased in size that the volumes became unwieldy, with the result that they are now bound in two parts, each of which is as bulky as was the complete volume a half-dozen years ago.

Its publication office has changed four times since 1871, but the changes have all been within a radius of 200 yards of its birthplace, 79 and 81 William street. Its first move was to 43 Cedar street, in March, 1872, and there it remained until May 4, 1881, from which date it was published at 72 William street. The Cedar street building is still standing, but 72 William street now forms part of the site of a skyscraper. The next move was to 84 William street, in April, 1896, on part of the site of the present Royal Insurance Building, and there it remained for a year when the Woodbridge Building at 100 William street having been completed, it moved into that modern structure, where it has since been "at home" to its friends. Coincident with the announcement of its move to 72 William street, the REPORTER stated that it had been forced to add four pages, thus running the number up to forty, which was twelve pages in excess of what it had been a little more than a year before.

To serve its subscribers has always been the chief purpose of the REPORTER, and it is their appreciation of the service it has rendered that has made it of value to its advertisers. The policy upon which it was founded, and from which it has never departed, was that the news of the world's markets must be collected with the greatest thoroughness possible, and furnished to its subscribers promptly. In doing this it may be pardoned for recording as an example of journalistic enterprise not exceeded by its contemporaries in any field, the manner in which it met the strike of pressmen, feeders and paper handlers in New York in October, 1919, which affected every trade and technical publication as well

EXECUTIVE
AND
SALES ORGANIZATION OF TODAY



INNIS, SPEIDEN & COMPANY, Inc.

EXECUTIVE OFFICES

46 CLIFF STREET NEW YORK CITY

BRANCHES

CHICAGO, ILL. PHILADELPHIA, PA. CLEVELAND, O.
BOSTON, MASS. GLOVERSVILLE, N. Y.

FOREIGN AGENCIES

LONDON, E. C. HAMBURG, GERMANY BARCELONA, SPAIN

CHEMICALS CHEMICALS

as the popular magazines in this city, and caused the temporary suspension of some three hundred publications. Our composing room, bindery and mailing room were not affected, but to make the issuance of the complete paper possible it was necessary for us to arrange to have the press work done at Orange, N. J., the type forms being taken there and returned to New York by trucks for several weeks, at a heavy expense and much risk. As this necessarily involved some delay in getting out the regular paper an "Emergency Bulletin" of four pages was issued and mailed every Monday morning, containing brief reports of all the important markets. Complete reports followed in the regular issues of the paper for the same week, which came out later, but at no time did the essential facts regarding market conditions fail to reach our subscribers on the day they were accustomed to receive the paper, nor was a single number of the complete edition omitted, although some six weeks elapsed before it was issued on its regular day of publication.

In its efforts to render the fullest possible service, it began early in its history to publish special issues when its regular weekly numbers seemed inadequate to meet the demands made upon them and these became a regular feature many years ago. Extra numbers containing the official stenographic reports of the meetings of the national associations of the trades which the paper represents are regularly published, as are others devoted to annual reviews of the markets and, more recently, to accounts of the chemical expositions. In passing it might not be out of place to say that the REPORTER has taken an active part in the formation of most of these organizations, several of which were brought into existence in its offices, and members of its staff have been active members and officials of some of them.

The Reporter's Year Book, first issued in 1874, with its statistical resumes of market conditions throughout the world, and comparative tables of prices and other data, is an example of what this publication offers outside of its own columns in the way of service. And its annual Green Book, now eight years old, containing classified lists of the goods handled by its trades and the firms who do the handling, is another, both being sent free to all subscribers. These books contain answers to questions which constantly present themselves to members of the trades and to governmental departments as well as to others interested, but additional questions are continually coming direct to the office, all of which receive prompt and careful attention. Framers of tariff legislation and executives who are behind many of the governmental policies avail themselves of the services of the REPORTER both as subscribers and through private correspondence and interviews.

Those who have known the paper from any period in its history not less remote than ten years ago, need to be no more than barely reminded of the changes that have taken place in its trades and in itself. Its columns have recorded as they occurred the developments that have been witnessed in the oil, paint, drug, chemical, dyestuffs, naval stores, fertilizer and allied trades during the half century and which are reflected in the pages of this issue. Indeed, it may truthfully be said that its files afford a comprehensive history of some of the most important trades and industries of the United States for the past fifty years.

The founder of the REPORTER may justifiably view the success that has confirmed the confidence which led him to venture upon its publication in 1871, with a pride measurable by the grateful appreciation with which he recalls the loyal and generous support he has received at the hands of those whose co-operation made that success possible.

Impressive Record of Past Fifty Years in Reporter Industries

Some of the Notable Events in American History Since 1871

Without attempting to summarize with any approach to completeness the important happenings of a half century, we have made brief record in these columns of the more notable events of 1871 to 1921 which related directly to, or had their influence upon the commercial history of the period, or referred to the men who figured conspicuously in that history.

1871

The first narrow-gauge railway locomotive built in the United States was shipped from Philadelphia to the Denver and Rio Grande Railroad in July. It was thought at that time that economy of construction and operation would make the narrow-gauge the standard of future railroad construction, and a transcontinental narrow-gauge freight road was planned and seriously advocated. But the narrow-gauge never got very far.

The Chicago fire, started on October 8 by Mrs. O'Leary's now historical cow upsetting a lantern, raged for two days and destroyed 18,000 buildings, with a total loss of over $200,000,000. Many insurance companies were bankrupted, and financial aid, food and clothing were rushed from all parts of the country to the impoverished sufferers. The notorious Jim Fisk, then at the peak of his spectacular career, mounted a big express wagon drawn by four horses and drove through the wholesale dry goods and other districts here collecting clothing and other supplies, and whole trains loaded with food and clothing were dispatched from New York and other cities.

An effort was made in October by the arrest of William M. Tweed to break up the corrupt ring of which he was the head, but which included in its sphere of influence the Governor of the State, the Mayor, most of the heads of departments and members of the Board of Aldermen. Samuel J. Tilden, Charles O'Connor, a prominent lawyer, and Andrew H. Green, afterward controller and known as the "Father of Greater New York," aided in the prosecution of Tweed and the other "boodlers," and in spite of political influence and the corrupt use of money wherever it could be used, Tweed's political career was ended and most of his time up to his death in Ludlow Street Jail in 1878 was spent in jail or attempts to escape it. At one time while awaiting trial he was released on $2,000,000 bail and on another occasion his bail was fixed at $3,000,000, which he could not raise.

1872

The Yellowstone National Park which has become the pride of every American was established by Act of Congress approved March 1.

Tea and coffee were placed on the free list on May 1 in response to a demand for a "free breakfast table," and a lessened necessity for revenue.

An International Tribunal at Geneva awarded the United States $15,000,000 to be paid by Great Britain for damages to United States shipping by the Confederate cruiser Alabama released by England from her ports during the war and other violations of neutrality laws. This was paid a year later.

The Island of San Juan in the San Juan archipeligo was awarded to the United States by the German Emperor, acting as arbitrator, in our controversy with Great Britain over the northwestern boundary.

A congressional investigation of the charges against certain members of having accepted stock in the "Credit Mobilier," which was the financing corporation of the Union Pacific Railroad and the stock of which was freely offered to influential members of Congress, cabinet officials and others for the purpose of influencing legislation. Oakes Ames of Massachusetts, president of the Union Pacific and Credit Mobilier, and then a member of Congress, and James Brooks of New York were censured by Congress for participation in the scheme which was one of the most scandalous that has ever besmirched a Congressman—and that is going some.

It was in 1872 that Horace Greeley, founder and editor of the New York Tribune, was nominated by the Liberal Republicans and Democrats for President, chiefly on the strength of his having gone on the bail bond of Jeff Davis who was imprisoned awaiting trial on a charge of treason. General Grant had been renominated and at the November elections overwhelmingly defeated Mr. Greeley upon whom defeat preyed so heavily that he died a few weeks later.

Early in 1872 the United States Centennial Exposition Commission, which had been authorized by Act of Congress, met at Philadelphia and organized with Joseph R. Hawley as president. A little more than a year later their plans were so far completed that President Grant issued a proclamation decreeing that the exposition at Philadelphia should open on April 9 and close October 9, 1876.

One cent postal cards were first issued by the United States in 1873.

1873

On March 3 Congress, as one of its last acts, passed a bill raising the salary of the President from $25,000 to $50,000 and also advancing those of the Vice-President, Senators and Representatives in Congress and Supreme Court Judges. It was approved by the President as almost the last act of his term of office, but it was repealed, except as to the President and Judges, in the following July.

Silver was demonetized and the coinage of a "trade dollar" authorized by Congress February 6.

A financial panic resulted in closing the New York Stock Exchange from September 20 to September 30.

Typewriter introduced commercially during 1873.

1874

A bill to inflate the currency to a maximum limit of $400,000,000 was vetoed by President Grant on April 22.

The quadruplex telegraph, permitting the sending of two messages in each direction over the same wire at the same time invented by Edison.

1875

A bill introduced by Senator Sherman authorizing the resumption of specie payments was approved January 14.

Whiskey frauds causing a loss of $1,650,000 revenue in 10 months were uncovered and resulted in the seizure of 16 distilleries and many rectifying plants in Western cities on May 10—but what's the use of talking about it now!

The 44th Congress opened December 6 with a Democratic majority in the House for the first time in 15 years.

1876

Congress appropriated $1,500,000 on February 16 to complete the Centennial Exposition buildings at Philadelphia and they were opened on May 10 by President Grant and Emperor Dom Pedro of Brazil. The exposition continued for six months with a measure of success, from every point of view, that left a lasting impress upon the arts and industries of the United States. The Director General was General E. T. Goshorn of Cincinnati, president of the Anchor White Lead Company, who later became a director of the National Lead Company when the two organizations were merged.

Alexander T. Stewart, the noted New York dry goods merchant, died April 10, and was buried in the churchyard of old "St. Mark's-in-the-Bouerie" at Tenth street and Second avenue, but his body was mysteriously removed November 7, 1878. It was subsequently said to have been recovered and deposited in a vault under the Cathedral at Garden City, L. I., which Mr. Stewart erected when he founded that place.

The massacre of General George A. Custer and 276 men by Indians under Sitting Bull in Montana occurred on June 25, and was about the last serious Indian outbreak.

Colorado, the 38th State, was admitted to Statehood August 1.

The Senate passed a bill reducing the President's salary to $25,000, but President Grant had got used to the raise given him in 1873 and liked it, so he vetoed the bill.

The "Greenbackers," who favored paper money, and believed as thoroughly as the Russians do in the ability of the printing press to make it, nominated Peter Cooper of New York for President, expecting that the old-gentleman would roll out a barrel for the election funds. The results at the polls showed that he "also ran."

Hallet's Point Reef at New York was blown up September 14, under the direction of General John A. Newton, of the United States Army Engineers, and greatly reduced the dangers to navigation in the Hell Gate channel.

1877

The Federal Electoral Commission, of unsavory memory, decided the contested State returns of the presidential election of 1876 in favor of the Republican candidate, Rutherford B. Hayes, of Ohio, thus defeating Samuel J. Tilden of New York, who was generally admitted to have been the honestly elected candidate.

Commodore Cornelius Vanderbilt died on January 4, 1877, and was succeeded in most of his railroad and other enterprises by his son, William H.

Importation of opium from China was forbidden by act of Congress February 23.

A bill providing for the free coinage of standard silver dollars as legal tender was introduced by Senator Bland of Missouri on November 5.

Edison phonograph or "talking machine" invented.

1878

The Bland free-silver bill as amended was passed over the President's veto February 28.

Sixth avenue elevated railroad in New York opened for traffic April 29.

Coinage of silver 20-cent pieces, which was begun in 1874, discontinued by act of Congress May 2, 1878.

The first real apartment house in New York and known as the Van Corlear was built this year at Seventh avenue and Fifty-fifth street. It was one of the show places of the town, and was occupied until 1921. It is being torn down to make room for a hotel.

Edison incandescent electric lamp invented

Bankruptcy laws of 1867 and 1874 repealed June 7, taking effect September 1.

Gold reached par in Wall Street December 17 for the first time since January 13, 1862.

1879

Specie payment by the United States resumed January 1.

National Board of Health authorized by act of Congress March 3.

French ocean cable landed at Eastham, Mass., November 15.

1880

About one mile of Broadway, New York, lighted by electricity December 20, the first extended electric street lighting in this city.

1881

President Garfield shot July 2 and died September 8. Vice-President Chester A. Arthur of New York succeeded him.

1882

Immigration of Chinese laborers to the United States is suspended for 10 years and admissions of Chinese to citizenship prohibited by act of Congress May 6.

1883

Brooklyn Bridge opened May 24.

Northern Pacific Railroad completed September 9.

Direct telegraphic communication between United States and Brazil via Central America opened September 21.

Standard railroad time in the United States goes into effect November 18.

New cantilever bridge over the Niagara Gorge opened December 20.

1884

Marine bank and firm of Grant & Ward fail May 6, resulting in small-sized financial panic in New York May 14.

Cornerstone of pedestal for Statue of Liberty laid on Bedloe's Island, New York harbor, August 6.

This year was also made notable by the Rev. Dr. Burchard, of New York, framing on October 29 his now famous alliterative sentence "Rum, Romanism and Rebellion," as the antecedents of the Democratic party whose candidate was Governor Cleveland, of New York. It will be remembered that Mr. Cleveland was elected on November 4.

MAURICE A. KNIGHT

Guaranteed
Acid-Proof CHEMICAL STONEWARE
Single Pieces or Complete Plants

REMEMBER
THE

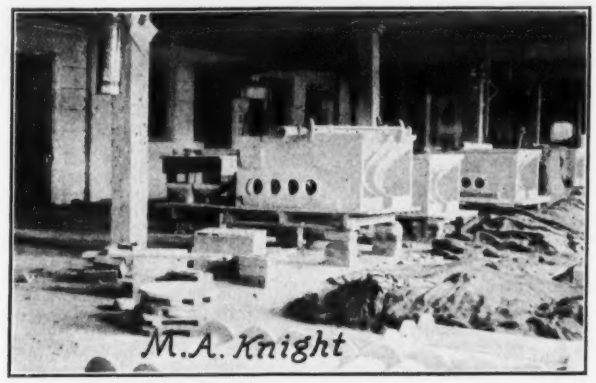
Our ware is not the cheapest or is it fancy. It is, however, fully guaranteed to be Acid Proof throughout the entire body; free from such defects as checks, cracks or blisters; not to leak or sweat; and satisfactory in every respect.

MAURICE A. KNIGHT
ACID PROOF CHEMICAL STONEWARE
AKRON, OHIO, U.S.A.

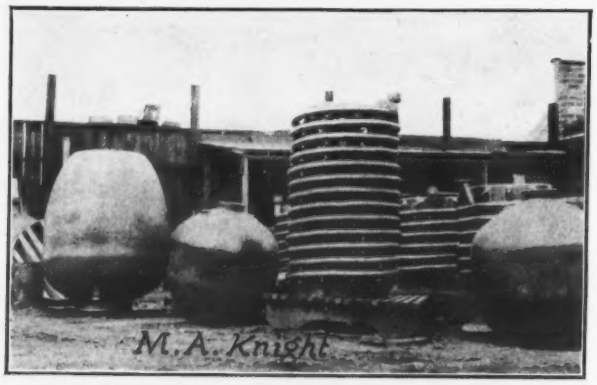
Our ENTIRE organization has been making acid proof chemical stoneware for over fifteen years.

TRADEMARK

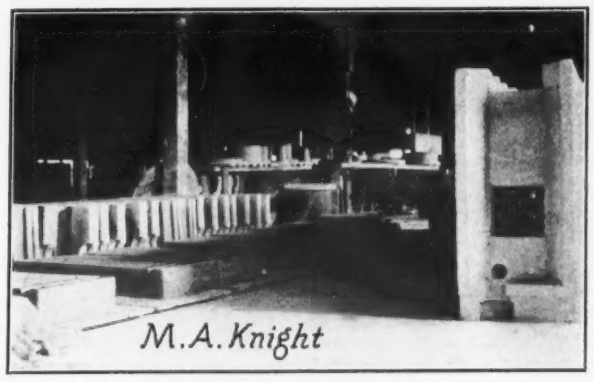
INTERIOR PLANT PICTURE, SHOWING KETTLE ROOM
Kettles in process and drying.



INTERIOR PLANT PICTURE, SHOWING TANK ROOM
Tanks in process and drying.



VIEW OF PART OF YARD SHOWING A FEW CONTAINERS AND COILS, BEFORE BEING TESTED AND PACKED
All of our material is tested for from 24 to 48 hours before being shipped.



INTERIOR PLANT PICTURE, SHOWING TILE ROOM
Tile in process and drying.
We make all kinds of Tile for lining tanks, towers, floors, electrolytic cells, etc.

Why Not Adopt An Acid Proof Stoneware With a Body Adapted to Your Situation?

One body may be admirable for one set of requirements, whereas a combination of clays, properly proportioned, would make a better body for some other situation. We don't recommend one body for all conditions, but make seven different bodies.

MAURICE A. KNIGHT Office and Factory, Kelly Avenue East Akron, Ohio

1885

The Washington monument at Washington, D. C., was dedicated February 21.

Importation of aliens under contract to perform labor, except in domestic service, prohibited by act of Congress February 26.

James D. Fish, president of the Marine Bank, for fraudulent practices which brought down that institution in connection with Grant & Ward, sentenced to 10 years in Sing Sing June 27.

First electric street railway opened at Baltimore September 1.

Mergenthaler linotype machine invented 1885.

Cash register invented by Patterson.

Flood Rock in Hell Gate, New York, blown up October 10, under direction of General John A. Newton. The cost of the work was $106,510, and 141 tons of explosives were used.

Ferdinand Ward, of the Wall Street firm of Grant & Ward, convicted and sentenced to 10 years in Sing Sing.

1886

Free coinage of silver bill defeated in Congress April 8.

President Cleveland suggests the appointment of a Commissioner of Labor.

Congress passes an act May 20 to provide for the study of the effects of alcoholic drinks on the human system in the public schools of the District of Columbia under the Military and Naval academies and Indian and colored schools.

Smokeless powder was invented by Vielle, a French chemist.

Congress passes act regulating and taxing the manufacture of oleomargarine August 2.

One, two and five-dollar silver certificates authorized by Congress August 4.

Anti-saloon Republicans hold their first convention at Chicago September 16. There were 300 of them.

Statue of Liberty unveiled at New York in the presence of 1,000,000 spectators.

1887

Interstate Commerce Commission bill approved February 4. First commission appointed March 22.

Bill prohibiting importation of opium from China approved February 23.

Jacob Sharp who built the Broadway street railway, convicted and sentenced to four years' imprisonment and $5,000 for bribing New York Aldermen. Now what do you think of that!

H. S. Ives & Co., New York stock brokers, fail for $20,000,000.

1888

Recording and adding machine invented March, 1888.

Transparent photographic films invented.

Blizzard on the Atlantic coast March 12-13. Four feet of snow fell in New York and drifts 10 to 20 feet high were common. But you have heard about that, no matter how young you are.

Electrocution substituted for hanging as a means of getting rid of murderers became the law in New York State June 4, and there have been several murders since, at that.

Department of Labor established by Congress June 13.

Cyanide process of extracting metals from ores invented by English chemists, Arthur & Deforest.

1889

New executive department, the Department of Agriculture, created by Congress February 9, and Norman J. Coleman appointed for Secretary of Agriculture February 12.

Dakota divided into two States (North and South), and they and Montana and Washington to adopt constitutions and form State governments February 22.

Oklahoma opened for settlement and Guthrie established as a city April 22.

Johnstown flood May 31.

North and South Dakota admitted as States November 2; Montana, November 8, and Washington, November 11.

1890

Columbian Exposition to be held at Chicago commemorating the 400th anniversary of the discovery of America authorized by Congress April 25.

Anti-trust law approved July 2.

Idaho admitted to Statehood July 3.

Bridge over the Hudson at New York authorized July 11.

Act authorizing the purchase of not more than 4,000,000 ounces of silver monthly at not over $1 for 371 grains, and the issue of treasury notes therefor and coinage of 2,000,000 ounces per month approved July 14.

Coinage of $3 and $1 gold pieces and 3-cent nickel discontinued by act September 26.

1891

The celebrated "billion-dollar Congress" adjourned March 4. Subsequent sessions have made it look like a piker.

Charles Pratt of New York, Standard Oil director and philanthropist, died May 4.

Smokeless powder used for the first time in this country July 25.

St. Clair River tunnel between Port Huron and Sarnia, opened September 9.

First Empire State express over the New York Central runs from New York to Buffalo in 8 hours 4 minutes October 26.

A stranger entered the office of Russell Sage in New York December 4 and asked for $1,250,000. People who knew Mr. Sage intimately think that this was evidence of insanity. Anyhow all the man got was—killed, and he had to furnish explosives himself. An "innocent bystander" was also killed and several other persons injured and the building badly damaged. Mr. Sage's feelings were badly hurt.

1892

As there wasn't much doing in Congress that day, representative Bland of Missouri introduced his free coinage bill January 21.

The Standard Oil trust was dissolved by law March 21.

This was one of the few years in which Russians were starving, so a vessel was sent from Philadelphia and New York with provisions, and arrived at Riga May 12.

Serious labor troubles at the Carnegie steel works at Homestead, Pa., begun July 1 and was declared off November 20.

A bill authorizing the issue of 5,000,000 Columbian silver half dollars commemorating the Chicago Exposition is passed on condition that the exposition be not opened on Sunday, was passed October 5. It was never known whether this was intended to help out the Sunday attendance at the churches or the theatres.

Jay Gould died at New York, leaving $72,000,000, which was all he had.

The United States, Great Britain and Germany agreed to make common cause in restoring order in Samoa December 5. This was before Mr. Wilson had recommended a League of Nations.

A train bearing $20,000,000 in gold left San Francisco for New York August 5 and came through without being robbed, and October 5 a gang of bandits attempted to rob the banks at Coffeyville, Kan., and were annihilated by the marshal's posse. "Them were the happy days."

1893

The Great Northern Railroad was completed to the Pacific January 6.

Great Britain and France announce March 24 that they had raised their representatives to the United States to the rank of ambassadors, and Thos. F. Bayard is nominated and confirmed as ambassador to the Court of St. James March 30. He was the first diplomatic representative of the United States to be accorded that rank.

The opening of the Columbian Exposition at Chicago on May 1 was preceded by an International Columbian naval review at New York on April 27 in which ten nations were represented by 36 warships.

Then there was a currency famine at New York in August, and as high as $25 premium was paid for bills of small denominations, stockings were carefully dug up and emptied.

Official record show 560 suspensions and 72 resumptions of State and private banks and 155 suspensions and 70 resumptions of national banks from January 1 to September 1.

We are disappointed after writing that paragraph a few inches back, to note that twenty robbers held up a Lake Shore train in Indiana September 19 by shooting the engineer and got $20,000 from the express car, and that $134,000 worth of gold was found missing on September 30 from a vault in the Philadelphia mint. It had been taken by a weigh clerk whose frugal habits enabled him to return $107,000.

1894

Coxey's Army of the unemployed started with 100 men from Maxillon, Ohio, for Washington March 25 and reached there April 29. In the meantime a base imitator named Kelly with an army of 350, which was increased en route to 1,200, started in the same direction, but got tired of hiking and seized a Union Pacific coal train of 20 cars so they could travel in style. Coxey disbanded his army on July 26, as soon as he got out of jail, and left them to shift for themselves.

The first Monday in September was made a legal holiday as "Labor Day" by act of Congress June 28.

The Hawaiian republic was proclaimed July 4 and was recognized by President Cleveland August 6.

Not that we intend to mention all of them, but just to show progress we notice that a hold-up of a Fredericksburg & Potomac Railroad netted $150,000 October 12.

Debs began to get the habit that year by being sentenced to six months' imprisonment by a Federal court for contempt in disobeying a mandate in connection with his conduct of the American railway strike of that year.

First gasoline-driven vehicle operated July 4.

1895

Roentgen ray discovered by Dr. W. L. Roentgen, a German.

President Cleveland asked Congress for authority to appoint a commission to determine whether Great Britain had infringed the Monroe Doctrine in the Venezuela boundary dispute, and it was granted December 21.

1896

John Hays Hammond and other Americans were convicted of treason in the Transvaal republic and sentenced to death, but finally were banished April 28.

Bryan was nominated for President by the Democrats July 9. He wasn't elected, but had a narrow escape.

Wireless telegraphy invented by Preece of England in 1895 and Marconi of Italy in 1896.

The belligerency of Cuba was recognized by the United States May 10, and Spain didn't like it.

Venezuelan boundary treaty ratified at Washington June 14.

Hawaii ratified annexation September 14.

1898

Free silver bill was beaten in the House of Representatives.

Battleship Maine blown up in the harbor of Havana February 15.

A joint resolution of Congress declared for recognition of the independence of Cuba, and demanded the withdrawal of Spanish land and naval forces from Cuba and Cuban waters. It also directed the President to use the land and naval forces of the United States to carry the resolution into effect April 20. An ultimatum was presented to Spain the same day.

President McKinley called for 125,000 volunteers April 23 and on April 24 Spain declared war.

Matanzas, Cuba, was bombarded by the United States fleet April 7 and on May 1 Admiral Dewey made history at Manila.

Gen. Shafter sailed from Tampa with his army to capture Santiago, and from that time on things kept happening until the Spanish fleet was destroyed at Santiago July 3, and the city was captured July 17, while Gen. Miles and his forces landed at Porto Rico July 27.

In the meantime Spain sued for peace July 26, and the protocol was signed August 12.

Hawaiian annexation resolution was approved July 7.

A new bankruptcy law was enacted July 1.

1899

Congress provided for a new custom house at New York, authorizing the acquiring of the Bowling Green site at a cost of not over $3,000,000 and the sale of the old Wall street custom house at not less than $3,000,000.

The rank of Admiral of the Navy created and Dewey appointed thereto March 2.

Pan-American exposition at Buffalo authorized by Congress March 3.

Andrew Carnegie sold the Carnegie Steel Co. May 4.

Great land and naval parade in honor of Admiral Dewey at New York September 26.

1900

First contract for building the New York subway awarded to John B. McDonald January 16.

Bill establishing the gold standard of currency for the United States became a law March 14.

The Senate refused to seat Matt Quay, who had been appointed to the United States Senate by the Governor of Pennsylvania. They were more exclusive than they are now.

North German Lloyd piers at Hoboken destroyed by fire June 30 with a loss of 175 lives and $7,000,000.

Boxers menaced Americans and Europeans in China and 6,000 United States troops were sent there July 8. The allied forces captured Tientsin July 14 and Pekin August 14.

Galveston flooded with loss of 6,000 lives and $12,000,000 to $15,000,000 property.

Oil motor invented by Diesel, a German.

1901

United States Steel Corporation incorporated in New Jersey February 26.

Andrew Carnegie made public gifts of $31,000,000 that year.

The Pan-American exposition at Buffalo opened May 1.

Fire at Jacksonville, Fla., caused a loss of $10,000,000 May 3.

United States Steel Co. workmen went out on a general strike August 10.

President McKinley assassinated at the Pan-American exposition September 6 and died at Buffalo September 14, Vice-President Roosevelt taking the oath of office as his successor the same day.

Szolgosz, assassin of President McKinley, was placed on trial at Buffalo September 23, convicted on the 24th and executed at Auburn Oct. 20.

Marconi signaled across Atlantic by wireless December 12.

1902

Greater New York becomes a corporate city with Seth Low as the first Mayor July 1.

The celebrated Northern Securities Co. case was begun by Attorney-General of Minnesota filing a complaint against the company January 7.

President Roosevelt sends to congress a report of the Isthmian Canal Commission recommending the purchase of the Panama Canal rights for $40,000,000.

Fire at Paterson, N. J., caused $8,000,000 loss and made 1,000 homeless February 9.

United States Supreme Court denied State of Minnesota right to file a complaint against the Northern Securities Co. in respect to the merger of the Great Northern and Northern Pacific railroads, February 24.

Thomas Estrada Palma inaugurated first president of the Republic of Cuba May 20.

International Harvester Co. incorporated in New Jersey with a capital of $120,000,000 August 12.

Great coal strike of 150,000 miners in Pennsylvania, May 12, lasting five months and causing great distress throughout the country with heavy loss to manufacturers and other consumers of coal. President Roosevelt appointed a commission to investigate and settle the strike October 16, and the strike was declared off October 21.

1903

The Panama Canal treaty between the United States and Columbia signed January 22.

Treaty between United States and Great Britain for a commission to settle the Alaskan boundary dispute was signed January 14.

Bill creating the Department of Commerce and Labor signed by the President, February 14.

Barge canal bill appropriating $101,000,000 passed by New York Legislature March 26.

U. S. Court of Appeals declared Northern Securities Co. merger illegal April 9.

Andrew Carnegie gave $1,500,000 for Peace Temple for The Hague Court of Arbitration April 20.

Germany forced the withdrawal of American insurance companies June 4.

The Pacific cable was completed July 4 and a message was sent round the world by cables in twelve minutes.

The Colombian Senate rejected the Panama Canal treaty August 17 and proposed a new treaty involving the payment of $25,000 000 by the United States.

Paterson, N. J., suffered a further loss of $3,000,000; from floods this time.

The United States recognized the independence of Panama November 6 and signed a treaty with that republic for an isthmian canal November 18. Colombia then offered a free concession for the construction of the canal if the United States would consent to the subjugation of the Republic of Panama.

1904

Conflagration at Baltimore, February 7-8, destroyed 2,500 buildings, covering 140 acres in the business district and causing a loss of about $7,000,000. Engines and firemen were sent to aid from New York and other cities.

U. S. Supreme Court on appeal decided the Northern Securities Co. illegal, March 14.

Oleomargarine tax upheld by the Supreme Court May 27.

Steamer General Slocum burned in the East River, New York, June 15, with the loss of over 1,000 lives.

Louisiana Purchase Exposition opened at St. Louis April 30.

New York subway opened from the City Hall to 154th street October 27.

1905

Beef trust declared illegal by the U. S. Supreme Court January 4.

Interstate Commerce Commission declares the Atchison, Topeka & Santa Fe Railroad Co. guilty of "flagrant and wilful violations of law" in granting rebates to the Colorado Fuel & Iron Co., February 2.

Jay Cooke, the noted financier of the Civil War period, whose failure in 1873 precipitated a general panic, died February 16.

The Panama Canal Commission reports the recommendation of a sea level canal, to be completed in twelve years at a cost of $230,000,000, February 26.

The New York Rapid Transit Commission reported plans for new subways to cost $200,000,000 March 30.

Pennsylvania Railroad train runs from New York to Chicago in sixteen hours and three minutes June 5.

Thomas T. Ryan purchased a majority of the Equitable Life Insurance Co. stock, fifty-one shares of the par value of $1,000 each, for $2,500,000, June 9.

Russia and Japan accept President Roosevelt's invitation to a peace conference, June 10, and on September 5 they signed a peace treaty at Portsmouth, N. H.

D., L. & W. R. R. station at Hoboken burned August 7, with a loss of $2,000,000.

Officers of the C., B. & Q. R. R. indicted for granting rebates to a subsidiary of the U. S. Steel Corporation December 29.

1906

Marshall Field, the noted Chicago merchant, died January 16.

The U. S. Supreme Court handed down the first important decision relating to the subject of common carriers dealing in commodities February 19.

Strike of 160,000 anthracite coal operators and miners in Pennsylvania March 31.

San Francisco destroyed by earthquake and fire April 18.

Page mortgage recording tax bill, abolishing the direct State tax in New York for the first time in 65 years, was approved May 22.

Chicago Packers found guilty in United States District Court in Kansas

1853 SIXTY-NINE YEARS' EXPERIENCE IN THE HANDLING OF *1922*

INDUSTRIAL CHEMICALS

Organized in St. Louis in 1853 under the name of

H. JOHNSON AND COMPANY

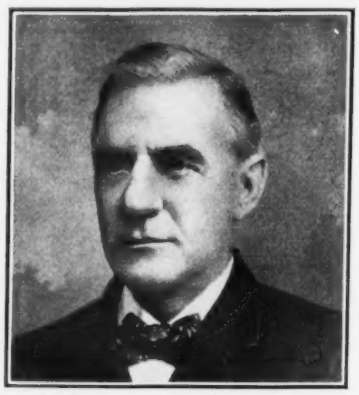
(A Partnership between Hiram Johnson and George P. Whitelaw)

1860-1866
GEORGE P. WHITELAW

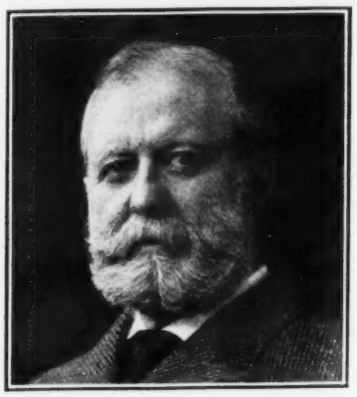
1866-1873
GEO. P. WHITELAW & CO.
(Partnership: Geo. P., Oscar L. and Robt. H. Whitelaw and Chas. W. Barstow)

1873-1885
BARSTOW & WHITELAW
(Partnership: Chas. W. Barstow and Oscar L. and Robt. H. Whitelaw)

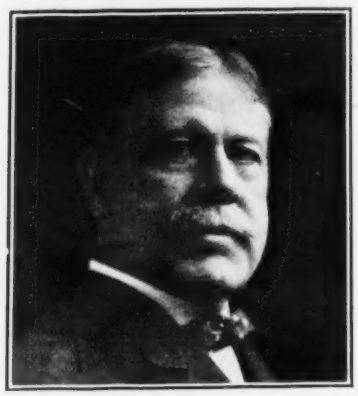
1885-1915
WHITELAW BROTHERS
(Copartnership: Oscar L. and Robt. H. Whitelaw)



GEORGE P. WHITELAW



OSCAR L. WHITELAW



ROBERT H. WHITELAW

SINCE 1915

WHITELAW BROTHERS CHEMICAL COMPANY

(A Missouri Corporation)

PRESENT OFFICERS:

RALPH T. WHITELAW
President

HAMILTON D. WHITELAW
Vice-President

R. MALCOLM WHITELAW
Secretary-Treasurer

ST. LOUIS
316 South Commercial Street

KANSAS CITY
Eighth and Santa Fe Streets

Stocks also carried at

PEORIA
ROCK ISLAND
DES MOINES
OMAHA
TOPEKA
WICHITA
HUTCHINSON
OKLAHOMA CITY
TULSA
DALLAS
HOUSTON
SAN ANTONIO

We operate exclusively in the Middle and Southwest with a force of nine unusually high class salesmen, and can offer exceptional opportunities to manufacturers as their Representatives and Distributors in this section.

City of accepting concessions from the C., B. & Q. Railroad June 12.

Oklahoma and Indian Territory are admitted to the Union June 16.

Standard Oil Company indicted at Chicago for receiving rebates August 5.

At the request of President Palma of Cuba for intervention to put down the revolution, the United States landed sailors there on September 14. President Palma resigned September 28, and Secretary Taft proclaimed intervention with himself as provisional governor September 29.

The sugar trust was indicted in New York for securing rebates October 2. The New York Central was accused of rebating October 17, the Standard Oil Co. was convicted in Ohio of violation of the Ohio anti-trust law October 19, and the Mayor of San Francisco was indicted for extortion November 18. It surely was a hard year for the ungodly.

1907

The United States Pure Food Law went into effect Jan 1.

Canada put an export duty on electricity from Niagara Falls January 5.

President Roosevelt ordered the exclusion of Japanese laborers and the dismissal of suits brought by Japanese against San Francisco school board for excluding Japanese from their schools.

The Standard Oil Co. was convicted of securing rebates from the railroads April 13.

Jamestown Tercentenary Exposition opened by President Roosevelt April 26.

Waters-Pierce Oil Co. fined $1,623,000 for violating Texas anti-trust law June 1.

The mayor of New York turned the first sod in connection with the Catskill water project June 20.

Standard Oil Co. fined $29,240,000 in United States District Court of Chicago for accepting rebates August 3, but was set aside by the United States Court of Appeals July 22.

North tube of Belmont tunnel to Long Island City opened August 7.

Steamship Lusitania completes her maiden voyage from Queenstown to New York in 5 days and 54 minutes September 5.

First wireless message across the Atlantic for commercial purposes sent October 27.

Financial stringency in New York resulting in suspension of Knickerbocker Trust Co., and several banks followed by bank suspensions throughout the country October 21 to 30.

Lusitania on return voyage New York to Queenstown lowered the record to 4 days, 22 hours and 26 minutes.

Charles T. Barney, president of the Knickerbocker Trust Co., committed suicide October 14.

1908

The East river tunnel, New York to Brooklyn, opened to subway January 9, and the first of the Hudson river tubes February 15.

Tennessee Supreme Court bars the Standard Oil Co. from that State April 11.

Conflagration of Chelsea, Mass., does $6,000,000 damage April 12.

Two-cent postage between the United States and Great Britain agreed upon June 3.

The Boxer indemnity paid to the United States by China, about $13,000,000, was returned to that country to be used in educating Chinese youths in American schools.

Orville Wright made a flight of one hour and ten minutes in an airplane September 11.

Missouri Supreme Court fines the Standard Oil Co. of Indiana, the Republic Oil Co. of Ohio and the Waters-Pierce Oil Co. of Missouri $50,000 each and bars them from the State.

1909

A 2-cent postage rate is agreed upon between United States and Germany January 1.

United States Supreme Court refuses the government a rehearing in the Standard Oil Co. $29,240,000 case.

Comm. Peary reached the North Pole April 6.

Payne tariff bill introduced in the House March 27 is passed by that body April 9, but you have to hear from the Senate yet.

Alaska-Yukon exposition opened at Seattle June 1.

Work begun on Cape Cod canal June 22.

But listen! State wide prohibition went into effect in Tennessee June 3.

Dr. Cook wires September 1 that he reached the North Pole April 21, 1908. A good many people believed "Doc" then.

Hudson-Fulton celebration opened at New York September 25.

American Telegraph and Telephone Co. acquired a large interest in the Western Union November 16.

Pennsylvania Railroad tunnels to Long Island opened November 28.

Dissolution of the Standard Oil Co. of New Jersey decreed by United States Supreme Court November 20.

J. P. Morgan secured a majority of the stock of the Equitable Life December 2.

1910

Charles W. Morse began a 15-year sentence in the Federal prison at Atlanta January 3.

The Interstate Park between New York and New Jersey was started by the gift of 11,000 acres and $1,000,000 by E. H. Harriman January 5.

Third avenue railroad in New York sold at auction for $26,000,000 March 1.

Socialists carry the municipal election at Milwaukee April 5.

Interstate Commerce Commission ordered a reduction of Pullman fares April 10.

Governor Hughes of New York appointed to the Supreme Court bench April 25.

First train through the tunnel from Detroit to Canada July 26.

Mayor Gaynor seriously wounded by a would-be assassin August 9.

Cotton reached 20 cents on the New York exchange August 30.

Glenn H. Curtiss made a flight from New York to Albany, covering 137 miles in 150 minutes, and capturing the New York World's prize of $10,000 May 29.

Moisant won a prize of $10,000 by encircling the Statue of Liberty in an airplane October 30.

"Doc" Cook admitted Nov. 30 that he wasn't sure about having reached the Pole.

English, French and German banks signed an agreement to participate with an American syndicate in $50,000,000 loan to China Nov. 9.

1911

Postal Savings banks established in the United States Jan. 3.

The Diamond Match Co. agreed to the cancellation of its patents on a harmless substitute for white phosphorus Jan. 18.

Explosion of 40 tons of dynamite in the Communipaw yards of the C. R. R. of N. J. killed 30 and caused large property loss Feb. 1.

The Roosevelt storage dam in Arizona, the largest dam in the world, opened March 25.

Serious fire, destroying many valuable records, occurred at the State capitol at Albany March 29.

After a ten-week deadlock the New York Legislature elected James A. O'Gorman, Democrat, to succeed Chauncey M. Depew as U. S. Senator March 31.

U. S. Supreme Court orders dissolution of the Standard Oil Trust within six months, and on July 3 the company announced its plans of dissolution to conform with the order.

The American Tobacco Co. was ordered by the U. S. Supreme Court, May 28, to dissolve.

A new subway system in New York comprising 87 miles of lines and to cost $200,000,000 was awarded to the B. R. T., and work was begun July 31.

C. P. Rodgers, aviator, arrived at Pasadena, Cal., Nov. 5, after having flown from New York, a distance of 4,231 miles in actual flying time of 4,924 minutes.

The Standard Oil Trust ceased to exist November 30, each subsidiary company assuming control of its own affairs.

John D. Rockefeller resigns as president of the Standard Oil Co. December 4.

South Pole discovered by Captain Roald Amundsen December 11.

1912

Equitable Building, New York city, destroyed by fire January 9.

Charles W. Morse, after serving two years of a fifteen-year term, gets commutation of sentence from President Taft January 1, on certificate from government physicians and others that he was likely to die. (N. B.—Nine years later Charles is still going strong).

Arizona admitted to Statehood February 14, making the forty-eighth State.

Standard Oil Co. of Indiana increases its capital from $1,000,000 to $30,000,000 March 7.

Floods in the Mississippi Valley covered over 200 miles of fertile land, rendering 30,000 persons homeless and causing $10,000,000 damage April 7.

Steamship Titanic foundered in mid-ocean after striking an iceberg April 15, with loss of 1,595 lives.

Wilbur Wright, inventor of the airplane and the first man to fly in an engine driven machine died May 30, aged 45 years.

1913

Income tax amendment to the Constitution ratified by requisite number of States and became law February 3.

President Taft signs bill creating the Department of Commerce and Labor March 4.

First territorial Legislature of Alaska met at Juneau March 3.

Chinese Republic recognized by United States April 3.

Underwood tariff bill passed the House May 8, and the Senate September 9.

United States Senate begins an investigation of the political activities of the National Manufacturers' Association July 11.

Renewal of the arbitration treaty between the United States and Japan signed June 28.

President Wilson urges California to make its proposed land legislation less objectionable to Japan, April 19, but the Webb Anti-Alien land bill is passed on April 30, and signed by Governor Johnson May 4.

Governor Sulzer of New York impeached October 16.

1914

President Wilson asks Congress to repeal the tolls-exemption clause of the Panama Canal tolls act March 5.

Secretary Daniels forbids the service of intoxicating liquors at officers' mess in the navy.

Troubles with Mexico were more or less common throughout this year, with invasions of Mexican territory by United States troops and some clashing of arms.

H. B. Claflin & Co., the large New York drygoods jobbing house, fail for $30,000,000 June 15.

Panama Canal opened August 15.

Cape Cod Canal also opened this year.

Archduke Francis of Austria assassinated at Sarajevo, Bosnia, June 28, and this gave the Kaiser an excuse for starting something. He started it, and on August 2 invaded Belgium which happened to be in the way of where he thought he was going. Then things began to happen and on August 3 President Wilson offered the good offices of the United States in mediating differences between the European nations.

One of the first effects of the European war on commercial and industrial conditions in the United States was to shut off the export demand for cotton, and greatly depressed prices. As a result conventions were called in the South to devise means for alleviating the distress caused to cotton growers and merchants. The New York Cotton Exchange closed November 1 and did not reopen until the 16th.

The Federal Reserve Bank began business November 16.

1915

During 1915 a large amount of American shipping was siezed or destroyed by German war vessels, and was the subject of much diplomatic correspondence between the two countries. On May 7 the British steamship Lusitania was torpedoed by a German submarine and 1,150 passengers, including over 100 Americans, were lost. The outrage was the subject of vigorous protest by this country, and may be regarded as the compelling impulse which led to a declaration of war by this country two years later.

The first trans-continental telephone conversation was held on January 15 between Prof. Alexander Graham Bell at New York and Thomas W. Watson at San Francisco.

The first battleship to be propelled by electricity was the U. S. S. Connecticut, completed on April 26, 1915.

First wireless telegraph communication between the United States and Japan was opened July 27.

Wireless telephone conversation between Arlington, Va., and Honolulu, a distance of 4,900 miles, was held on September 19.

The $500,000,000 loan agreement the American underwriters and the British and French governments was signed at New York October 15.

1916

United States Supreme Court upheld the Income Tax law January 14.

The United States notifies Germany that diplomatic relations will be severed unless Germany abandons her method of submarine warfare April 18.

The old dry goods house of Mills & Gibb, New York, went into receiver's hands May 12.

Preparedness parade in New York May 13.

Explosion of munitions on Black Tom island, New York harbor, felt for a distance of miles and caused great damage to property in New York city.

Strike of motormen and conductors on surface lines ties up service in New York September 7.

German submarine Deutschland arrives at New London, Conn., with a $10,000,000 cargo of chemicals.

Adamson Eight Hour bill approved September 4.

Madison Square Garden bought by New York Life Insurance Co. under foreclosure for $2,000,000 December 12.

New York Stock Exchange did the largest business in 15 years, 3,086,000 shares, on Secretary Lansing's announcement that the United States was being drawn into the war.

1917

Danish West Indies pass to the United States January 17.

War declared with Germany April 6.

Cotton futures reached 27 cents on New York Cotton Exchange June 19, the highest price since 1871.

John F. Hylan elected mayor of New York city November 6.

Walter C. Teagle became president of the Standard Oil Co. of New Jersey, succeeding A. C. Bedford, who became chairman of the board November 15.

Henry G. Freeman, a Philadelphia lawyer, wills a provision of $12,000 "pin money" annually to wife of the President of the United States, the fund to be carried in perpetuity.

United States takes over the railroads to be administered by William G. McAdoo December 28.

Bush Terminal docks and shores at Brooklyn commandeered by Acting Quartermaster General Goethals December 31.

United States Fuel Administrator orders that electric signs in New York be not lighted, as a means of conserving coal supply.

1918

Schools in New York closed on account of a scarcity of coal January 2.

Wheatless Mondays and Wednesdays, meatless Tuesdays, and porkless Thursdays and Saturdays ordered by Mr. Hoover, January 2.

United States loans to the Allies in the first year of the war total $5,160,500,000 April 2.

The first contingent of the national army consisting of 233,742 men called to the mobilizing camps May 3.

American Railway Express organized by the United States May 28.

Armistice declared November 11.

First returning soldiers welcomed at New York December 23.

1919

Peace conference opened at Paris January 18, and the League of Nations' project unanimously adopted January 25.

Fire destroys plant of Southern Fertilizer & Chemical Co. at Savannah with loss of millions.

The Extract Manufacturing Co.'s $750,000 plant at Stamford, Conn., destroyed by fire February 19.

President Wilson returned from Europe February 24, but sailed again March 5.

The $6,000,000,000 war revenue bill signed by President Wilson February 24.

Congress passes the $7,000,000,000 Victory Loan Bond bill March 20.

The du Pont Powder concern reported that during the four years of war it made 1,466,761,219 pounds of military explosives, or 40 per cent. of the world's production for the Allies, March 5.

Trade between the U. S. and Austria resumed April 2.

U. S. Steel Corporation buys the Empire building, New York, for $5,000,000 April 23.

First airplane flight across the Atlantic June 15.

Peace treaty signed by Germany June 28. President Wilson cables a peace proclamation and leaves for home.

The Standard Oil Co. of New Jersey lists on the New York Stock Exchange $100,000,000 of its securities and makes public its balance sheet July 25.

Andrew Carnegie died August 11.

A strike of 12,000 painters, paperhangers and decorators for a five-day week and a wage of $1 per hour started August 13.

New York subways and elevated roads tied up by a strike August 17, and reports from twenty States showed 300,000 persons of all classes on strike.

Fire at the Brooklyn plant of the Standard Oil Co. caused $5,000,000 damage September 13.

President Wilson, suffering from a nervous collapse, gave up speaking tour made in behalf of the ratification of the Peace Treaty and returned to Washington September 26.

Contract between New York and New Jersey for the construction of a vehicular tunnel from Manhattan to Jersey City signed September 27.

King and Queen of Belgium arrive in New York October 2.

U. S. Supreme Court cancels patent to 6,000 acres of oil lands to Southern Pacific R. R. Co. November 17.

Prince of Wales arrives in New York November 18.

Coal shortage causes order December 19 to close offices and stores in New York city at 4 p. m.

National Prohibition act upheld by U. S. Supreme Court December 15.

1920

U. S. Prohibition Amendment to the Constitution took effect July 16.

Admiral Robert E. Peary, discoverer of the North Pole, died February 20.

U. S. Senate rejects the Peace Treaty and returns it to the President March 19.

Earthquake at Los Angeles, Cal., opened two new oil wells July 28. The oil stock promoters did not capitalize earthquakes until the 29th.

Nineteenth amendment to Federal Constitution proclaimed August 26. And then they began to vote, bless their hearts!

Bomb exploded in front of J. P. Morgan & Co.'s office in Wall street, killing 34 and injuring 130 persons.

1921

Allied premiers approve plan, January 29, to make Germany pay 226,000,000,000 gold marks in forty-two years on a sliding scale, starting with 2,000,000,000 marks in 1921.

Air mail leaving San Francisco at 4.30 a. m. February 22, was delivered at Mineola, N. Y., 4.50 p. m., February 23.

War with Germany declared ended by resolution passed by U. S. Senate April 30.

President Harding presented to Mme. Curie, the discoverer of radium, the gift of radium valued at $100,000 on behalf of the women of the United States May 20.

Germany made its first reparations payment, 1,000,000,000 gold marks, May 28.

President Harding invites Great Britain, France, Italy and Japan to a disarmament conference July 10.

The Labor Day parade in New York was abandoned on account of the large number of persons out of employment.

President Harding flashes greetings

NATIONAL U.S.A. DYES

Standardization of "National" Products

A "National" dye is never offered to the trade until it is so standardized that it can be duplicated at any time with scientific accuracy.

So fully do we realize the importance of standardization, that this is the controlling influence in our production —not an incident to it.

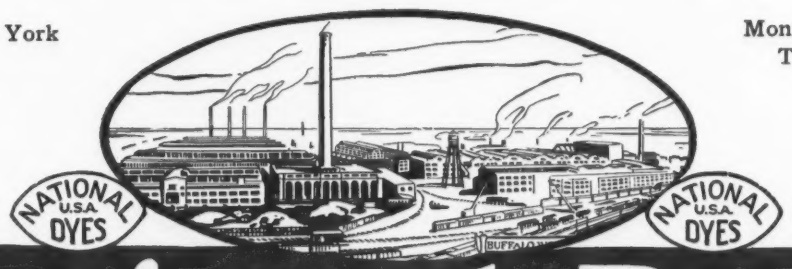
We maintain a special staff of experienced chemists whose sole duty it is to secure uniformity in the finished dyestuffs. And to enable these chemists to perform that duty with the utmost precision, they are vested with authority to halt any manufacturing process if any deviation from our exacting standards should occur.

The standardization of "National" products begins with the raw materials, which are all carefully examined and tested. There then follows, at every stage in production, a series of precise tests—a complete system of checks and counter-checks,—which insure finished products of absolute uniformity.

This carefully devised method of standardization makes it possible for the dye-consuming industries to employ "National" products with entire confidence, year after year in their own combinations.

National Aniline and Chemical Company, Inc.

New York
Boston
Chicago
Hartford
Charlotte



Montreal
Toronto
Providence
Philadelphia
San Francisco

National Dyes

to 28 countries at opening of new radio station near Port Jefferson, N. Y., November 5.

America's Unknown Soldier is buried at Arlington National Cemetery with highest honors November 11.

The Disarmament Conference opened at Washington November 12 and on December 10 Great Britain, France, Japan and the United States agreed to a treaty maintaining the status quo on the Pacific for ten years.

Some of the Growths of Fifty Years

The railway mileage in this country in 1871 was 52,914, and in 1920 it was placed at 253,578. More miles were built the year the Reporter was born than in any year before or since, the total being 7,379, showing that the post-bellum period of industrial development was well under way, and it was quickened, especially in agriculture and mining.

The farm lands, that is to say, land under cultivation in the United States, are given by the census of 1920 as 507,000,000 acres, against 189,000,000 in the census of 1870. In value the increase has been from $10,000,000,000 to more than $50,000,000,000. The increase in acreage has been due in part to the opening up of extensive tracts of public lands to settlers, and also to the reclaiming of waste lands by irrigation.

In 1871 the production of corn amounted to a little short of 1,000,000,000 bushels and in 1920 about 3,250,000,000. The tobacco crop grew meantime from 263,000,000 pounds to 1,500,000,000 pounds, and the anti-tobacco apostles are still at work. How much of the increase is due to the cigarette habit among women is not estimated.

In gross tons, the pig iron manufactured in this country increased from 1,665,179 in 1870 to 37,000,000 in 1920. It is interesting to note that the production in 1820 was 20,000 tons.

The banner year for steel rail production in this country was 1906, when it approximated 4,000,000 tons. The first steel rails laid here were imported from England late in the '60s.

The production of cotton has increased from about 3,000,000 bales in 1871 to nearly 13,000,000 in 1920.

In 1871 the amount of lead produced in the United States was 17,830 tons; in 1880, 97,825 tons; in 1890, 143,630 tons; in 1900, 270,824 tons; in 1910, 375,402 tons; and in 1920, 476,849 tons. The banner year was 1916, with 552,228 tons.

Crude zinc produced in the United States:—In 1880, 23,000 tons; in 1890, 64,000 tons; in 1900, 124,000 tons; in 1910, 252,000 tons; and in 1920, 450,000 tons.

In 1870 the production of quicksilver in the United States was 2,300,000 pounds; last year it had dropped to less than 1,000,000 pounds, the smallest it had been in fifty years. The 1870 production is not far from the average for the half century.

There are no less than eight ocean vessels afloat with a registered tonnage of over 30,000 each. These range from the "Mauretania," with 32,000, to the "Majestic," with 56,000. The "Great Eastern," built in 1858, had a tonnage of 19,000, and for a third of a century remained the greatest steamship ever launched.

In 1870 the Suez Canal traffic amounted to 486 vessels with a net tonnage of 436,609. Fifty years later the figures were, respectively, 4,009 and 17,574,657. In 1921 the traffic through the Panama Canal (which was opened in 1914) was over 11,000,000 tons, carried by 2,892 ships.

The Western Union Telegraph Co. began its gathering-in process as early as 1866, when it had 75,000 miles of telegraph lines, and by 1921 its holdings had grown to 1,484,000 miles of wire and 245,000 miles of line. But this is by no means the total mileage of the telegraph service of the country.

It was estimated that the total circulation of periodical publications in the United States was 20,000,000 in 1870. Then the Reporter came along, and the estimate the year the world war started and when normalcy hadn't been upset was more than 200,000,000.

Customs Tariff Changes in Fifty Years

In 1871 foreign merchandise imported into the United States was paying the rates of duty presented by the tariff of 1870, which was intended to lessen some of the burdens imposed by the acts passed during the civil war to provide urgently-needed revenue. It carried a considerable reduction of duties from those of the act of 1864, the last of the war measures, but retained a clearly defined discrimination in favor of the protective principle as applied to certain industries.

The first tariff law adopted by a United States Congress was passed in 1790, and its first section declared as the reason for its enactment that it was "necessary for the support of the government, the discharge of the debts of the United States, and the encouragement of manufactures." From this it appears that while the raising of revenue was the primary object, incidental protection was a recognized purpose, as it has been in most of the tariffs adopted since that date, although many of them have not so frankly avowed it. In that bill most of the chemicals came in under a blanket clause levying a duty of 5 per cent. ad valorem. Soap paid 2 cents per pound, glass and paints in oil 10 per cent. The acts adopted by subsequent Congresses removed many articles from the blanket clause and added specific duties, and the war of 1812 created a demand for revenue which was met by an advance of 100 per cent. on all duties. Lead was first made dutiable in 1790 when a duty of 1 cent per pound was placed on the pig and this was increased to 2 cents in 1824 and to 3 cents in 1828. White and red lead were made dutiable in 1824 at 4 cents per pound, with an increase to 5 cents in 1825. Quinine was made free in 1832, having previously been included, apparently, under some of the blanket clauses. Tariff revision in following years was evidently intended to whip the law into more intelligible shape, and the list of specified dutiable articles was steadily increased. There were, howvere, no striking changes until our civil war created the necessity for increased revenues. By the act of 1862 opium was taxed at $2 per pound and morphine at $2 per ounce, while 45 per cent. ad valorem was placed on quinine. Linseed oil, which in some of the earlier acts had paid as high as 25 cents per gallon, was, for some reason not now apparent, placed at 3 cents per gallon, and white and red lead at 15 cents per 100 pounds.

There have been six complete revisions of the tariff in the last 50 years, and another is now pending, and these have largely represented the changes that have occurred in the political complexion of Congress. The chemical schedule, which includes paints, oils, drugs and dyes, has been only less conspicuous in the work of the revisionists than the metal and textile schedules, and has been the subject of no end of popular criticism and acrimonious debate. The removal of the duty from quinine by the act of 1883 was in deference to the popular clamor for untaxed medicine, and although the protection party has had several innings since that date, it has never restored the duty. While there have been some well-intended efforts, chiefly in the Ways and Means Committees of different Congresses, to draft a consistent and somewhat scientific tariff, the acts finally enacted, mainly through the influence of the Finance Committees of the Senate, have been characterized more by political expediency than by any idea of a consistent application of either the protective or the revenue principles, and our present tariff is as clumsy a piece of patchwork as any of its predecessors, with no apparent prospect of any notable improvement in the act over which Congress is now haggling.

As illustrative of the changes that have occurred in the rates of duty since the "war tariff" of 1862, we append a tabulation of duties prescribed on a number of articles in our trade by each complete revision of the tariff from that date to 1913. When no rates are given, those of the preceding tariff are supposed to have been unchanged.

	1862.	1864.	1870.	1872.	1883.	1890.	1894.	1897.	1909.	1913.
Acid, boracic	5c	..	..	free	..	5c	3c	5c	3c	¾c
muriatic	10%	..	free	..	..	..	..	..	..	..
sulphuric	..	..	..	free	..	¼c	free	⅛c	..	free
Aniline dyes	..	$1 & 35%	50c & 35%	..	35%	..	25%	20%	30%	30%
Argols	6c	free	..	..	..	..	..	1c	5%	5%
Barytes, unmfd	½c	..	..	..	..	$1.12 ton	..	..	$1.50	15%
refined	½c	..	..	..	..	$6.72 ton	..	..	$5.25	20%
Bleaching powder	..	..	..	free	..	..	..	½c	..	1/10c
Borax, crude	5c	..	..	free	..	3c	2c	..	..	free
refined	10c	..	..	..	5c	..	2c	5c	2c	½c
Camphor, crude	30c	..	..	free	..	..	..	2c	..	1c
refined	40c	..	..	5c	..	4c	15%	6c	..	5c
Colors, dry and in oil	25%	30%	..	..	25%	30%	..	..	..	15%
Chloroform	..	$1 lb.	..	..	..	25c	..	..	10c	2c
Cream of tartar	..	6c	..	..	..	20%	..	..	5c	2c
Lead, pig	..	2c	..	..	..	..	..	..	2½c	25%
acetate white	4c	20c	..	10c	6c	5½c	2¾c	3¼c	3c	1¼c
brown	..	..	..	5c	4c	3½c	1¾c	2¼c	2c	1c
litharge	2¼c	3c	..	..	..	..	1½c	2½c	2½c	25%
red	15c	2c	..	..	..	..	1½c	2½c	2½c	25%
white	15c	3c	..	..	..	..	1½c	2½c	2½c	25%
Oil, cottonseed	..	..	30c gal	½c lb.	25c gal	10	..	4c	free	free
fish	..	..	20%	..	..	8c gal	25%	8c	..	3c
linseed	3c	..	30c	..	25c	32c	20c	..	15c	10c
peppermint	80c	..	..	..	25%	80c	25%	..	25c	25c
whale, refined	..	20%	..	..	..	8c	25%	8c	8c	5c
castor, gal	50c	$1	..	..	80c	80c	30c	35c	35c	12c
Opium, crude	$2	$2.50	$1	..	..	free	..	$1	$1.50	$3
refined	$2	$2.50	$1	..	..	50c	..	$1	$1.50	$3
Potash, bichromic	3c	..	..	5c	3c	..	..	..	2½c	1c
Quicksilver	..	..	..	..	10%	..	7c	..	..	10%
Quinine	45%	..	..	20%	free	..	..	..	..	..
Flaxseed	..	..	20c	..	..	30c	20c	25c	..	20c
Soap, common	..	1c & 30%	..	..	..	20%	..	..	..	5%
Soda ash	..	..	..	..	¼c	..	..	..	..	free
bicarbonate	½c	..	..	..	1½c	1	½c	¾c	⅝c	¼c
sal	½c	..	¾c	..	..	..	½c	2/10c	⅛c	⅛c
Sugar of milk	..	..	..	free	..	8c	5c	..	..	free
Ultramarine	..	25%	6c	5c	4c	3c	..	..	..	15%
Zinc oxide, dry	¼c	..	..	..	¾c	1¼c	..	1	..	10%
in oil	..	..	..	..	1c	1¾c	..	..	..	15%

Transportation Facilities of Fifty Years Ago

Transportation in cities fifty years ago was restricted to horse-drawn vehicles and the only regular public lines were omnibuses or street cars. In New York, as in the other large cities, there was the same complaint of "rush hour" crowding that there is today, and with as good reason. It is true that the distances traversed by the business man (there were no business women) between his home and his place of business morning and night were not as great as they are now, and when the weather was favorable there was a larger percentage of foot travelers, but when it was stormy every vehicular line was packed to capacity and over, and as there was no heat in the winter and the trips were slow and tedious, the discomforts were greater than those of today. In New York the Second and Third avenue lines from the City Hall through Yorkville to the Harlem River took about an hour, while the Ninth avenue line from Fulton street and Broadway to Manhattanville made about the same time. There were steamboats from the docks adjoining Fulton Ferry to Harlem and Morrisania, which made better time and were especially delightful in summer. All of the other street car lines that we know today, and some that have been abandoned, were running, but did not cover the extreme length of the island. There were half a dozen ferries from New York to Brooklyn and as many more to other points on the Long Island side north of the present Williamsburg Bridge and extending as far as Astoria. The North River ferries were operated much as they are today, but carried more passengers.

The bus lines mostly had their downtown termini at the ferries, and their routes uptown were through Broadway and the avenues, some stopping at 23d and 42d streets and others going as far as 59th street. The Broadway horse-car line was first operated in 1885, the franchise having been jammed through the Board of Aldermen by Jake Sharp, president of the company, by methods which landed him and some of the members of the Board in prison a few years later.

Entrance to Manhattan Island at the north was by the New York Central and Hudson River Line at Tenth avenue and 30th street, or by the Harlem or New York and New Haven lines through Fourth avenue to 26th street, the site of the present Madison Square Garden. In October, 1871, however, the first Grand Central station at 42d street was opened, and this became the New York terminal for these two roads. It was several years later before the connecting link between the Hudson River Line at Spuyten Duyvil and the Harlem at 138th street was completed, after which all through trains of the New York Central system used the Grand Central station, only a few Hudson River locals using the old 30th street station.

On several of the horse-car lines cables were substituted as a motive power in the 90's, and these in turn were succeeded by electricity. New York—that is to say, Manhattan—was, however, the last city of any size to introduce electric street cars, as the city government refused to allow the use of overhead wires, the burying of all telegraph and telephone wires having begun in the 80's, and being steadfastly adhered to, to the great improvement of the appearance of the streets, no less than to their increased safety. Brooklyn had some trolley cars before 1890. We believe that Baltimore claims the distinction of having been the first city to adopt trolley cars on its street railways.

The first elevated road in New York was an experimental structure built in Greenwich street in 1870, from Liberty street to Battery Place. It was run by cable, and was afterwards extended through Greenwich street to Ninth avenue. It was not until small locomotives were substituted for the cable in 1871 that it was operated with any success, and its extension continued until 59th street had been reached by 1876. The Sixth avenue line was built from South Ferry to 58th street in 1878, and the Third avenue line to 42d street, and was extended to the Harlem River a year later. In 1880 the Second avenue line was constructed as far as 67th street, and the Ninth avenue line extended to Harlem. All of these lines were operated by steam locomotives, small, but noisy, until 1902, when they gave way to "the third rail."

The first charter for an underground transit system in New York was granted in 1864 and was for a subway from the Battery up Broadway and Sixth avenue to 59th street. Nothing was ever accomplished under this charter, perhaps for the reason that steam was the only motive power available, and the experience of the London tubes with their smoke and gas-laden atmosphere was not encouraging to a similar venture here. There was, however, an experimental tunnel under Broadway from Warren street to somewhere between Murray and Park place, about 1872. It was about 12 or 15 feet in diameter. The car was a cylinder about 20 feet long and fitted the tunnel so closely that it was propelled by compressed air entering the tunnel behind the car, which was thus forced along "before the wind," so to speak. It never got past the experimental stage, but the tunnel and car were unearthed in excavating for the present Broadway subway early in 1900. Entrance to the tunnel was through the basement of Devlin & Co.'s clothing store, then situated where Rogers, Peet & Co. are now. The work of constructing our present subway system began in 1901, and the first trains were operated in October, 1904.

Excavations for a tunnel between New York and New Jersey were begun about 1880, work being carried on from both shores and continuing for a year or more with the loss of many lives, when it was discontinued. We believe the completed portion was made part of one of the McAdoo tunnels completed in 1909-10. The Pennsylvania Railroad tunnels under the Hudson and through Manhattan Island and under the East River were all begun in 1904-5 and finished in 1910, the Hudson-Manhattan tunnels being constructed at the same time as substitutes for the ferries as passenger carriers. The Hell Gate bridge by which the Pennsylvania Railroad system from the south through the tunnels to Long Island City, and the connecting line, is joined to the New York and New Haven Line, was completed in 1917, and made an unbroken line from Boston to the South and West. This improvement is of more important service to travelers between New England and points south of New York than it is to New Yorkers, but it is none the less a notable addition to the transportation facilities of the city.

The Brooklyn bridge, begun in 1871, was opened for traffic in 1880. For many years it was a toll bridge and the cable cars operated by the city collected a three-cent fare. Alden S. Swan, a prominent oil man, was one of the commissioners at the time the bridge was completed and for a number of years thereafter. The Williamsburg bridge was completed in 1903, and both the Manhattan and Queensboro bridges in 1909. All of these bridges, with their roadways, footpaths and car tracks, are taxed well up to capacity during the hours of greatest travel, to serve the people of a city which, even forty years ago, had no means of communication across the East river excepting ferry boats. There is much talk these days, and has been for years, of a bridge across the Hudson to connect Manhattan Island with New Jersey, and work on a two-tube tunnel for vehicular traffic between Canal street and Jersey City has already begun. It is possible that in another fifty years air routes will have rendered these more substantial means of communication of as little comparative importance as the ferry boats of 1871 are today.

Progress in Letter Filing

In the early days of the Reporter, letter filing was done in a rather crude way, and copies of letters sent, when kept at all, were made by means of an old-fashioned press in a book. The infancy of the alphabetically arranged tray letter-filing drawers and of the Reporter were contemporaneous.

The modern vertical filing system dates back to 1892, and is said to have been first worked out by Dr. Rosenau. A vertical filing cabinet was part of the Associated Charities exhibit at the Columbian Exposition held at Chicago in 1893. Numerous improvements have been made in filing systems since then, but the vertical idea still prevails.

Fifty Years' Continuous Service in the Chemical Industry

Howard B. Bishop, President; B. S. in chemistry, University of Michigan, 1900; chemist in charge of head laboratory of General Chemical Co., 1902-1912; research chemist, General Chemical Co., 1912-1917; chief chemist Marcus Hook Works, National Aniline & Chemical Co., 1917-1919; sales department Intermediate Department, National Aniline & Chemical Co., 1920; consulting chemist, 101 Park avenue, New York, 1920-1922. Awarded Nichols medal, 1907. Inventor of process for manufacture of hydrofluoric acid, improvement in art of cleansing fabrics, Electrotitrimeter for testing acids, process for manufacture of sodium fluoride.

John C. Wiarda & Co., Inc. has served the Chemical and Allied Trade for half a century, and its affairs are now being directed by chemical experts with an intimate knowledge of manufacturing processes and trade requirements.

Send your Chemical Problems to our Technical Service Department.

We Are Specialists in the Following:

Hydrofluoric Acid	Glauber Salts	Boric Acid
Sodium Fluoride	Sal Soda	Bone Ash
Ammonium Fluoride	Ammonia 26° Be.	Fluorspar
Blue Vitriol	Sulphuric Acid	Caustic Soda
Copper Carbonate	Hydrochloric Acid	Soda Ash
Nickel Salts	Nitric Acid	Zinc Carbonate
Nickel Anodes	Acetic Acid	Zinc Chloride

A booklet giving a full list of products, standard packing and useful chemical data, will be sent gladly on request

John C. Wiarda & Co., Inc.

271 GREEN STREET BROOKLYN, N. Y.

From Chemical Manufacturing to Banking

It is no unusual occurrence for present day banks to reach out into the chemical markets of Europe and import drugs and chemicals on their own account in addition to carrying on their routine contribution to the business in matters of finance, but to find a reverse process of a bank emerging from a manufacturing chemical company into one of the country's foremost financial institutions is, indeed, rare.

This is exactly what happened in the case of the Chemical National of New York, which early in its history was metamorphosed from a chemical enterprise into a bank. What is now known as the Chemical National Bank was incorporated at Albany, February 24, 1823, as the "New York Chemical Manufacturing Company, Without Banking Privileges." Its aims were the "manufacture of blue vitriol, alum, oil of vitriol, aquafortis, nitric acid, muriatic acid, alcohol, tartar emetic, refined camphor, saltpetre, borax, copperas, corrosive sublimate, calomel and other drugs, medicines, paints and dyers' colors."

Soon after its incorporation, the company purchased the chemical and drug factory in Greenwich Village owned by John C. Morrison, on the southwest corner of Hudson and Gansevoort streets, then known as the Great Kill Road. The price paid for the plot (88x62) was $37,219.

Although the company's charter was amended in 1824 to permit it to do a general banking business, the Chemical Manufacturing Co. was still active up to 1832. Among the entries in one of its old order books are found the following names, and some of the concerns are still prominent in the trade:—

Colgate & Bros., 10 Gold street; Seth Low & Co., 115 Maiden Lane; Howland Keese & Co., 80 Maiden Lane; P. G. Acularius & Co.; Olcott & McKesson; Rushton & Aspinwall; Robinson & Cornell; A. Tieman & Co.; Rudyard & Whittlesley; I. & I. F. Tripp; Pentz & Co.; H. M. Schieffelin & Co., 88 Maiden Lane, who on June 18, 1832, ordered "20½ barrels alum in bulk, 10 kegs do., 50 pounds each, 1 load oil vitriol. 1 barrel blue vitriol." Hoadley Phelps & Co., 141 Water street, ordered "7 carboys oil vitriol tomorrow"; Jeffries & Catterfield bought of the trustees of the New York Chemical Co., 55 cases crude brimestone for $876.46.

There was also considerable business from out of town, with New England, New Orleans and other points. For example, Benedict & Co., "want by the first boat for New Haven, 14 large carboys oil of vitriol and 1 barrel crude borax." H. Seymour, of Hartford, orders "7 carboys oil vitriol by the Merchant, this afternoon, at Burling Slip"; Miles J. Fletcher, "by sloop Victory Thursday morning"; Lodi Print Works "by schooner for Hackensack"; J. & W. Williams of Utica, "by the Troy boat"; W. W. & C. Laflin "want, by sloop, Coenties Slip"; Hopkinson & Ward, "first packet"; Francis Phillippon, Natchez, "for New Orleans, Pier 18 or 19."

The company established its first banking headquarters August 2, 1824, at 216 Broadway. "A bank on Broadway?" There was much shaking of heads in the business districts down toward the end of Manhattan island. "Too far uptown," was the decision of Wall street.

The Chemical Manufacturing Co. continued to function as an active chemical producer after the beginning of the venture into banking and passed out of existence by provision of its charter in 1844.

Ancient and Modern Elevators and Buildings

As late as 1869 there were but three elevators below Canal street, New York, two being in hotels—the Astor House and French's—and the third in an office building. They were more restful, but no speedier than climbing stairs. There were few business buildings of more than four stories, and six stories constituted the limit of hotels. Elevators, therefore, were not as essential to comfort as they now are, but without them buildings taller than those of that day would, of course, have been impracticable, and New York would have been compelled to spread itself out on a four or five-story plan if it had not been able to grow skyward.

Elevators, or what might perhaps be better described as hoisting machines, to be operated by power have been the subject of patents for many years before the date we have named, but the first one to be equipped with a safety appliance to work automatically in case the hoisting machinery or cable gave way was exhibited at the Crystal Palace, New York, by Otis in 1853. From that time forward progress was made, although the hoisting mechanism, being a drum operated by belt and shafting, was not capable of operating a car very satisfactorily. In 1877 hydraulic elevators were introduced, affording increased speed and convenience of operation, as well as an econimizing of space, which adapted them to positions in which the old machines had not been practicable. The electric elevator came into use in 1880.

In 1878 the first hydraulic was installed in the Boreel Building, at 115 Broadway, then one of the highest office buildings, but rather diminutive when compared with the present skyscraper type. Although the Reporter had occupied quarters in the heart of what was up to that time the wholesale drug district, and had never been more than a hundred yards away from the junction of Maiden Lane and William street, it was not until it moved to the Woodbridge Building on its completion in 1897 that the members of its staff ascended to their daily tasks by help of elevators. Even then there were but few buildings in that section of the city which required elevators, the Seabury Building at 59 Maiden Lane being one of them. But the skyscraper had already arrived, and many of those erected just before and since the new century dawned have already been demolished to make way for more imposing structures. The Federal Reserve Bank Building, now under construction on Maiden Lane and Liberty street, from Nassau to within fifty feet of William, required the tearing down of several fine modern buildings of more than ten stories and of comparatively recent erection, as well as a large number of the old four and five-story types. It is stated that a like change in the sky line on the north side of Maiden Lane is projected by the insurance interests which are now centered where once drug merchants most did congregate.

Oil Men Had Big Part in Developing Typewriter

But for two men who had been associated in the oil transportation business in Pennsylvania the typewriter as we know it in this year of our Lord 1922 might not exist. They were James Densmore and G. W. N. Yost. But before their day a great deal of preliminary experimentation had been done. Indeed, the idea of a writing machine having been traced back to 1714. It was not until the winter of 1866-67 that C. Latham Sholes, a Milwaukee printer, and some of his companions began work on what turned out to be the first typewriter ever put on the market. Mr. Densmore, who was in the petroleum business at Meadville, Pa., became interested in Mr. Sholes' model and bought an interest in the invention. When Mr. Sholes grew disheartened at the repeated failure of his many models to do what he intended they should, and was ready to quit, Mr. Densmore's faith and support kept him going.

Things had progressed thus far when the oil transportation man called for the aid of his former partner, Mr. Yost, who was a most persuasive talker. The two went to see E. Remington & Co., the arms manufacturers, at Ilion, N. Y., to get them to use the facilities of their large works in manufacturing Mr. Sholes' machine. Mr. Yost's eloquence won over the Remington people, but was not strong enough to overcome the skepticism of the public when, about the middle of 1873, the machines were first put on sale. Even after the typewriter had been exhibited at the Centennial Exposition at Philadelphia in 1876 the attitude of the public toward them was disappointing to the promoters. Many changes were made in the selling end of the business. At one time D. R. Locke, well known by his pen name of Petroleum V. Nasby, was connected with that part of the enterprise—another connecting link between typewriting and oil.

After failure had marked the efforts of many others the Remingtons assumed the task of marketing their output, with the late Clarence W. Seamans as sales manager. Later Mr. Seamans formed the firm of Wyckoff, Seamans & Benedict, Mr. Wyckoff being a court reporter from up the State who had had some experience in selling typewriters, and Mr. Benedict being a clerk in the Remington offices at Ilion. Mr. Wyckoff stayed in the selling field, while Messrs. Seamans and Benedict organized and conducted the New York offices. This firm turned the tide, and by 1886 Wyckoff, Seamans & Benedict purchased from the Remingtons all of their interest in the typewriter patents and manufacturing plants, at the same time forming a corporation with a capitalization sufficient to meet the requirements of the rapidly expanding business. There have been numerous typewriters put on the market since that day, and many improvements have been made, but to the vision and perseverance of Sholes, Densmore and Seamans belongs, more than to any other men, the credit of making a commercial success of this useful and valuable implement of business.

Story of Reporter Trade Associations

New York Linseed Association

GEORGE W. FORTMEYER
President

The New York Linseed Association was organized on December 11, 1867, for the purpose of doing away with the uncertainty of what should be considered merchantable linseed. At this time the crushers of linseed established in the East were not importers themselves, but purchased their supplies from importers of India produce, such as linseed, jute butts, hemp, etc. The linseed was held in storage in Brooklyn warehouses, and the supply averaged from 250,000 to 300,000 bags. This seed, supplied largely from the bazaars of Calcutta and Bombay, was of very uneven quality and was so unsatisfactory that the crushers finally formed themselves into an association for the protection of their interests. Thirty-four firms organized the association and it may be of interest to the crushers of the United States to mention their names. They were:—Archer & Bull, D. G. Bacon, Busk & Jevons, W. B. Bacon, Campbell & Thayer, Robert Colgate & Co., Wm. O. Cooper & Co., H. H. Crocker & Co., T. K. Cummins & Co., Davis, Wolt & Co., T. DeLand & Co., Dix & Morris, Fowler, Crampton & Co., J. B. Glover & Co., Hallett & Robins, R. H. Hunter & Co., John Jewett & Son., Judd Linseed & Sperm Oil Co., Kirkland & Von Sacho, John T. Lewis & Bros., Wm. Mackey & Co., I. & C. Moore & Co., E. D. Morgan & Co., Munzinger & Pitizipio, Napier & Welsford, J. L. Phipps & Co., Alfred L. Rowe, Star Linseed Oil Co., Spring, Nott & Co., Tudor & Co., Weston & Gray, J. G. Whiting & Co., John D. Wood and Thos. Rowe & Sons.

Messrs. Ralli Bros. and Calvocoressi & Rhodoconachi joined the association shortly after its organization.

These included almost all of the principal crushers, importers and brokers of linseed. Upon the establishment of the association, circulars were forwarded to all parts of this country then interested and to India. Excellent results followed and the standard adopted by the association improved the quality of the linseed imported and greatly to the satisfaction of the crushers. Its certificates of analysis with the facilities provided fo general business in the article established the popularity of the association and the practical wisdom of its organization.

Its first president was Thomas Rowe, who served until 1875, when George W. Campbell of Campbell & Thayer was elected president and served until 1893. Following Mr. Campbell, George A. Thayer of Campbell & Thayer was elected president and only served until May, 1895, and upon his death in May, Joseph A. Dean was elected president and served until the close of the year 1901 when he tendered his resignation in the association, and George W. Fortmeyer was elected president on December 11, 1901, and has been successively re-elected each year since that time.

In the year 1893, the crushing interests of the country were practically supplied in all of their requirements by domestic flaxseed which had been gradually growing in volume since 1870 and only about 300 tons of Calcutta seed were imported in 1903 from London. The usefulness of the association was therefore beginning to be quite negligible, but in the full belief that the American crop might eventually diminish in volume, owing to its gradual development westward and northwest, and the abandonment of the older sections where it had been raised, and foreign seed would again be needed, it maintained its full organization and awaited the time when it would again be largely useful in the interests of the crushers of linseed as it had been in the past. The wisdom of this course was amply justified, and today Eastern crushers are very largely dependent on foreign seed, imported principally from the Argentine.

During the past few years the association has greatly expanded its activities and now analyzes other oil seeds, principally castor seed and soya bean. Its membership comprises sixty-two firms and embraces all of the crushers of the United States and many importers of oil seeds and others interested in the business.

In the late world war, when the largest portion of the South American crop was imported into the United States, the association forwarded samples of each importation to the Oil Seeds Corporation of London for their use in maintaining their records as to the quality of the yearly crops.

The New York Linseed Association is now firmly established, and with its facilities and reliable statistics is a most important factor in all that pertains to the crushing interests of the country. The present officers are:—George W. Fortmeyer, president; F. A. Marsh, vice-president; Thos. J. Hastings, secretary-treasurer.

The National Fertilizer Association

JOHN D. TOLL, Secretary

The National Fertilizer Association was organized in 1894. Its objects are to procure and disseminate useful information pertaining to the scientific development of agriculture, to promote social and business intercourse and friendship among all persons interested in the improvement of the soil, the production and use of fertilizers, and all other means, devices, inventions and discoveries, the aim being to improve and facilitate the increase of soil production.

Virtually every forward movement that has been inaugurated in the fertilizer industry during the last twenty-eight years has originated within the circle of the National Association, and that body is entitled to much of the credit for the high plane upon which the commercial fertilizer industry is today operated.

All who are identified with the fertilizer trade in any capacity share in the accomplishments of the association, which was designed on broad and liberal lines, and works unselfishly for the expansion and success of the whole industry. Throughout its existence the association has enjoyed the co-operation of fertilizer manufacturers to an unusual degree, and now includes in its active membership nearly all the important companies, while many in allied trades comprise its associate membership.

The work of the organization is carried on through its officers and eight standing committees—executive, soil improvement, insurance, chemical control, traffic, statistics, high analysis, and cost accounting. All of these committees are actively functioning at the present time.

Its most important work in recent years has been that of the Soil Improvement Committee. This is a well organized educational activity with a paid staff of experts, who are constantly at work to increase the yields of farm crops. The committee not only gives information regarding the function and the profitable use of commercial fertilizers, but also advises on every approved means for increasing yields by better seed, better cultivation and better handling of the crops. This committee has cordially co-operated with government and State officials, and its work has, in turn, been endorsed by many agricultural colleges and State experiment stations.

Other recent activities have included work on transportation problems. Full carloads and early shipments were important matters for a time, and more equitable freight rates at present seem necessary to the very life of the industry.

The use of more concentrated mixtures has been advocated by the association for several years, and much has already been accomplished in increasing the sale of "high-analysis" goods.

Other current committee work includes the reduction of fire risk in fertilizer factories, the introduction of better cost accounting methods and the extension of chemical control over all manufacturing processes.

The association is a virile organization, representing a growing industry intimately associated with the prosperity of the farmers and the well being of the whole American people. The use of commercial fertilizers is certain to increase steadily, and it will be the work of the National Fertilizer Association in future years as in the past, to labor for the economical production and the intelligent and profitable use of these fertilizers.

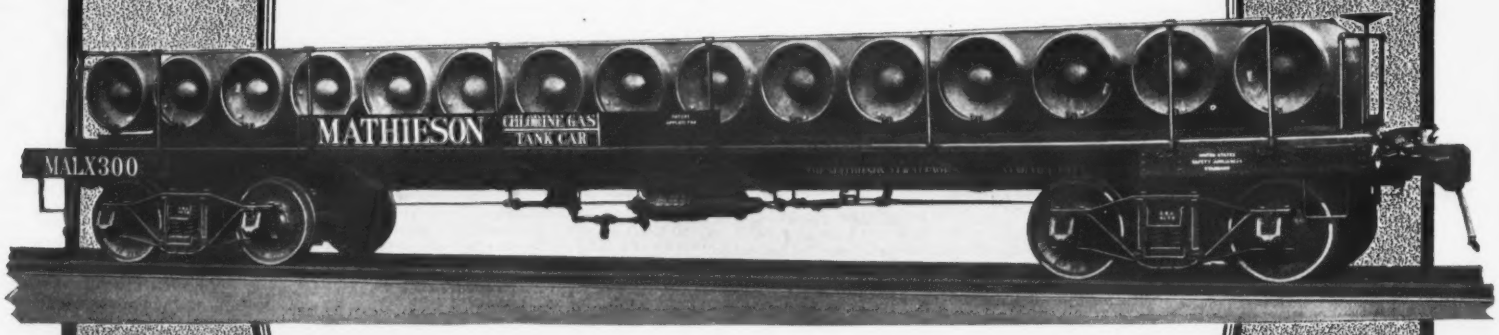
An active Sales Organization in close touch with consumers' requirements and constructive idealism with practical engineering ability, have produced the Mathieson Chlorine Gas Tank Car.

A specially designed body, carrying fifteen one-ton containers, permits transportation upon the same basis as the ordinary tank car.

All the container metal is available for inspection at all times.

Reduction of the hazard to a safe unit, avoiding the dangers of handling fifteen tons in one bulk.

The consequent accomplishment of Safety —with increased economy—in the handling and transportation of Liquid Chlorine.



THE MATHIESON ALKALI WORKS, Inc.

25 West 43rd Street **New York, N. Y.**

Chicago, Ill., Philadelphia, Pa., Providence, R. I.
Charlotte, N. C.
Works:
Saltville, Va. Niagara Falls, N. Y.

The National Wholesale Druggists' Association

C. H. WATERBURY, Secretary

In the years following the Civil War individual wholesale druggists were operating in isolated fashion and were governed by no particular mode of conduct with respect to others. Competition was ruthless and carried with it a measure of almost blind personal hatred of competitors. This situation, following a period of speculation and inflation from 1866-1872, led to almost complete disaster in the reactionary years of 1872-1877, when price declines were large and demand slackening.

One of the wholesale druggists of Indianapolis conceived the idea of inviting a number of competitors in nearby territory to a conference in that city. The response to this invitation was remarkable and on March 15, 1876, ninety-five wholesale druggists of the Middle Western and Southern States gathered together and formed the Western Wholesale Druggists' Association, which was later (1882) changed to the National Wholesale Druggists' Association.

By means of a liberal social program, the individual competitors were brought together on a personal basis enabling them to come to a closer understanding of the fundamental problems confronting them. Two meetings were held in 1876 and in 1878, and it was at the second meeting in 1878 that the president emphasized in his address the importance of always continuing at the annual meetings a social program through which personal acquaintance and friendship might be cultivated, as confidence, the basis of all co-operative effort, depends so largely upon personal friendship. That this warning has ever been observed is all a matter of record, and the published proceedings of the National Wholesale Druggists' Association are replete with accounts of the various annual reunions at which the families of wholesale druggists from every part of the United States were present and through which a lasting personal friendship has been developed to a very refined and delicate degree, now being revealed in some cases in the third generation.

Perhaps the most important trade episode that has come out of the National Wholesale Druggists' Association and its predecessor, the Western Wholesale Druggists' Association, is the origin and growth of the present day method of marketing proprietary articles.

At the time the Western Wholesale Druggists' Association was formed proprietaries constituted but 36 per cent. of the total business. Even then these were frequently used as leaders or bait to secure other business. The result was a continuous price war such as left the average gross profit around 2, 3 or 4 per cent. Unless some radical steps were taken, it was conceded that the then prevailing condition would spell ruin for the trade. At the meeting in the spring of 1877 a committee recommended the adoption of what was called the "Rebate Plan," having for its purpose a rebate of a fixed percentage by the proprietor to those houses that observed list prices during a given period. Out of this practice was developed the present day list price and discount, the rebate plan later developing the practice of deducting the amount of the originally planned rebate of 10 per cent. at the time goods were paid for. The plan was carried out by means of contracts between proprietors and wholesale druggists. Later it was extended to include full price protection in what was known as the "Tripartite Plan," embodying an agreement on the part of the manufacturer to sell only the wholesale druggist who in turn would sell only retail druggists who agreed to maintain prices. Both these plans were discontinued because declared unlawful by the Sherman Act. The Tripartite Plan had its end in the issuance of the decree of the United States District Court at Indianapolis, Indiana, in 1907, entered against the three associations participating in the plan.

Today the wholesale druggist is confronted with a problem even more complex than that of 1876, for now the proportion of proprietary articles to total business is much larger than it was then, and the proportion of fixed price goods to total business is still larger, the average figures being 55 per cent. of proprietary business, while those non-proprietary in character add from 15 to 20 per cent. more to the total volume of fixed price goods handled by the wholesaler. The growth in the number of proprietaries in fifty years is illustrated by the fact that in 1870 a Chicago wholesaler's catalogue listed 825 proprietaries, while the issue of the Druggists' Circular Red Book of October, 1921, listed more than 47,000 such items. This tremendous growth has created a situation requiring much greater investment in these articles and more intense distribution, demanding orders in small quantities and more frequent in number. Thus it has developed that the great proportion of proprietary medicines handled by the wholesale druggist is in broken lots of one-quarter dozen and less. This is true both as to number of orders, units of merchandise and dollars or volume of sales.

To meet this critical condition, the Proprietary Committee of the Association is now endeavoring to work out some plan which will equitably compensate manufacturer, wholesaler and retailer.

As to terms for the wholesale drug trade, after many years of effort on the part of a standing Committee on Credits and Collections, the association went on record in 1904, at its thirtieth meeting at New Orleans, in favor of the universal cash discount of one per cent.. This cash discount has been put in effect in the greater part of the country. Twenty-five years ago, the Committee on Credits and Collections began a scientific study of the cost of distribution of proprietary articles. This statistical survey was carried on by quinquennial periods from 1894 to 1919, inclusive, with the result that there is now available a statistical survey showing the changing cost of distribution of proprietary articles with the increase in that class of business. These analyses also show the increasing tendency toward small-lot business as the number of proprietaries has grown.

During the days of rapidly changing overhead costs brought about by the war, special analyses of increased costs were made. One of the difficulties that the committee undertaking this work was confronted with was the widely varying basis upon which wholesale druggists kept their cost records. So great was the disparity in many cases, that it was almost impossible to compile cost data of a substantial character, except by taking the figures of a relatively small number of houses whose accounting practices were more or less uniform. Because of this difficulty, the association created a committee on uniform accounting in 1919. This committee engaged in the difficult task of devising a system of cost accounting whereby some uniformity of cost data could be secured. The first system recommended was admittedly not perfect, but its defects could only be learned by regular application of the system. The year 1921 covered the first full twelve-month period in which the uniform expense account system has been in operation, and the results of that period show that individual houses have materially profited by being enabled to intelligently compare various items of their overhead expenses with the average, and where excessive departmental expense appeared, they have investigated and, if unnecessary waste was found, have eliminated or at least reduced it.

Before the enactment of pure food and drug legislation prohibiting misbranding and adulteration, there were many abuses in the trade. Crude drugs, chemicals and essential oils were especially made the subjects of illegitimate handling. In the early years of the National Association, notably 1878-1884, the Committee on Prevention of Adulterations did much toward cleaning up many of these abuses, and took steps to protect its members against adulterated articles by exchanging data on tested merchandise. This pioneer work led to the general policy of members of the association to sell only goods of quality and to sell all goods as labeled.

With the enactment of various State laws governing adulterations, and the adoption of the Federal Pure Food and Drugs Act of 1906, the activities of this committee changed so that now its work is largely a historical summary of varying qualities of medicinal products.

One of the earliest activities of the association was an exchange of information on fire insurance rates, the contention being as far back as 1877 that wholesale druggists were discriminated against in the matter of premium charges. Several conferences were held with representativs of the fire underwriters which resulted in substantial reductions in rates, and a stabilization of rates which had formerly shown wide diversity. From this early beginning was established a custom of making careful study of all possible fire hazards in the trade, reducing and eliminating them wherever possible. Of especial value to the trade were the studies of this problem by the Committee on Fire Insurance several years ago. The reports embraced an analysis of construction problems for wholesale drug houses, interior protection measures and systems, prevention practices, etc., as well as a complete review of the various classes of indemnity contracts, notably those offered by stock, mutual and reciprocal companies. These reports have been widely used by insurance men to their own profit, and the recommendations contained in them have largely been followed in all new construction of wholesale drug houses.

The association has taken a conspicuous part in all constructive legislation looking toward the prevention of adulteration and misbranding of drugs, thereby improving quality of merchandise handled, and has also approved and aided in the enactment and enforcement of legislation of a practical character, having to do with the control of distribution and sale of habit-forming drugs. Most of this legislation was handled by the various States in which local standing of individual houses carried an important part. Since 1906, however, when the Federal Pure Food and Drugs law was enacted, there has been a continuously growing centralized Federal control of the drug business, which brought about a larger field of activity for the association, and required the employment of a permanent staff. In 1906 permanent headquarters of the association were established in New York city, and from that time on the activities of the organization broadened to include the issuance of bulletins of information to members, a regular clearing house of information on any subject pertaining to the drug trade, employment bureau having for its purpose the placement of desirable employees with members, legislative clearance and representation. On April 30, 1910, the association was incorporated and granted a charter perpetual under the laws of the District of Columbia.

As a part of its legislative work the association retained a permanent representative in Washington some years ago, who had served the association on many occasions from time to time since 1898, when the Spanish-American War Revenue measures were adopted. Today the lelgislative situation at Washington, embracing as it does a wide variety of revenue laws, food and drugs acts, insecticide laws, narcotic law, prohibition and alcohol regulatory measures, all of which are enforced by widely scattered departments and bureaus, is such that practically the entire time of the Washington representative is absorbed in performing services for the association and the trade as a whole and in special services for individual members on account of proceedings under the provisions of statutes or regulations affecting the drug trade exclusively. The value of which and the position of the wholesale drug trade with respect to the government has been amply demonstrated within the most recent period of Federal legislation on the subject of prohibition. Events in this connection are all too new and fresh in the minds of the entire trade to require recounting here.

As a part of the legislative work, the association, in conjunction with the Proprietary Association of America, publishes from time to time a compilation of State pure drug laws embracing the salient features of every State law affecting the quality, labeling, sale, advertising and distribution of drugs and drug products. This is the only compilation of its kind in existence and it is regarded as the authority for complete legislative requirements covering the drug business.

Another important activity of the association for the benefit of the drug trade as a whole was the work done some years ago jointly between the officers of the association and the heads of various colleges of pharmacy looking toward the enlargement of college curricula to include instruction in the commercial aspects of the drug business. The result of this work has been the adoption by practically every college of pharmacy of a course in practical commercial methods. The association members are continuously encouraging this feature of the pharmacists' training and are gradually enlarging the field of commercial training so that better retail merchants are being developed.

Through a series of prize essay contests in the past few years the association has performed a notable service for its members in stimulating thought and study of the fundamental problems of distribution. To date the association has published two booklets covering the functions of the wholesaler and a contest is now under way dealing with the economics of salesmanship.

The highly developed friendly relations between the members of the association had made possible a freedom of exchange of opinions on all matters of common interest. Competitors have no hesitancy in giving the benefit of their experience gained by competition to others for the good of the trade as a whole.

Much of the great loyalty of the members of the association is unquestionably due to the fact that its members have not been bound by any form of agreement or code of practice. The essence of its success is due to its wholly democratic character, recognizing the right of every member to act freely and in accordance with his best individual judgment.

The printed proceedings of the forty-seven meetings of the association contain a world of information on nearly every phase of the complex business of distributing drug merchandise, including packing, selling, transporting, billing, marking, testing, etc. Also there is the history of trade-mark legislation and decisions, the interpretation of Federal statutes affecting the conduct of price maintenance plans by the highest court, a record of war price changes and fluctuations on leading drugs and chemicals compiled by the Committee on Drug Market from actual transactions. In addition to this material is the permanent personal history of those who founded the association, and many of those who have guided its activities.

The bound proceedings also show the names of members from the first year of organization down to the present. This record in itself shows some interesting economic history in the genuine growth of the local jobber as a factor in distributing drug merchandise. In the early days of the association the majority of the wholesalers were located in a relatively small number of important market centers. As the number of cities grew and the transportation systems were developed more minutely, the local jobber developed and gradually the number of wholesalers in the larger cities diminished while more and more smaller cities appeared as distributing centers in which wholesale druggists were located. The latest membership enrollment of the National Wholesale Druggists' Association shows 243 wholesale drug members and 514 members engaged in allied lines.

State Pharmaceutical Associations

With one exception, every State in the Union now has its pharmaceutical association. Of these forty-seven organizations, only one antedates the Reporter, that of New Jersey, which was formed in 1870 and has had an unbroken record since.

Maine druggists established a State association in 1867, but it died in 1879 and a new one was organized in 1890. California, West Virginia and Vermont also had State pharmaceutical associations as early as 1870, but they, too, succumbed to inanition and their successors were organized many years later.

Paint Manufacturers' Association

GEORGE B. HECKEL, Secretary

The Paint Manufacturers' Association of the United States was formed May 8, 1899, when the non-exchange agreement was formally adopted and signed by all present.

The first regular annual meeting was held at Chicago under the presidency of W. L. Davies.

The subjects discussed at this and the May meeting were "Terms and Forward Datings," "Consignment of Goods," "Distributing Agents," "Traveling Salesmen," "Tare Allowance on Putty Packages," "Guarantees," "Co-operative Purchase of Raw Materials," "Manufacturing and Selling Costs," "The Campaign of Corroders Against Prepared Paints."

When the association was established the practice of exchanging of paints had completely demoralized and threatened to wreck the industry. No manufacturer could be sure of his customers from day to day. These exchanged stocks were advertised and sold on the market in competition with the manufacturer, usually at prices below cost of production, and altogether the paint business was becoming a hazardous speculation.

Despite the agreement, the abuse was not easily corrected, but gradually conditions improved, so that today, while exchanges are occasionally charged, the evil no longer exists as a general practice. On the advice of ex-Attorney General Lehman in 1910 the association voluntarily revised the agreement to include the products of all manufacturers, thus extending its protection to non-members. Furthermore, when in 1918 the National Varnish Manufacturers' Association adopted the same agreement it was extended to cover varnishes as well as paints, and every new member of either association before admission signs the agreement.

In 1901 the association took cognizance of the wide sale of adulterated linseed oil, and in co-operation with the flaxseed crushers began a campaign, which finally has recently resulted in a material mitigation of the evil through the Federal Trade Commission.

In 1901 also the association began a campaign against the so-called "commercial-size" packages—in other words, against short weight and short measure—and recommended the use of full-weight quantities and U. S. standard gallon cans. This evil has also practically disappeared from the practice of the trade as a whole, absolutely and entirely as far as members of the association are concerned. Incidentally, the agitation on the subject also resulted in the adoption of the net weight package by the white lead industry.

Irregularities and discrimination in freight rates and classifications early attracted attention, as did the subject of fire insurance, and while the Paint Trade Mutual Fire Insurance Co. was finally organized, quite properly and logically, within the jurisdiction of the National Paint, Oil and Varnish Association, it had its inception, formulation and most effective promotion within the Paint Manufacturers' Association.

Ask for Snow Balls.

NAPHTHALENE

BALLS,

FLAKE,

CRUSHED

Rockhill & Vietor, 22 Cliff St., New York

Rockhill & Vietor, 180 N. Market St., Chicago

Carry at all times a stock of Balls and Flake of our Manufacture.

The Chatfield Manufacturing Co.

Cincinnati, Ohio

In 1903 a Committee on Advertising was created, and in 1905 became the Bureau of Promotion and Development, and in 1908 the Educational Bureau. This committee has been probably the most efficient agency for good ever created within the organization of any trade association.

In 1913 E. T. Trigg suggested to the Educational Bureau the advisability of inaugurating a co-operative advertising campaign to inform the consuming public as to the importance of paint and varnish products in the conservation of property and materials, and in 1916 the project was unanimously approved at the annual meeting, and the bureau was authorized to secure pledges for a minimum of $100,000 annually for a period of five years. The war delayed the completion of the task, but at the annual meeting in 1918 the National Varnish Manufacturers' Association, having also in the meantime indorsed the plan, Mr. Trigg announced that all conditions had been fulfilled. The "Save the Surface" Campaign Bureau was established in January, 1919, and in the early spring of that year the campaign was inaugurated, and is now generally recognized as the most potent business producer of the industry. Its funds have been materially enlarged and at present investments of one-eighth of 1 per cent. on annual "turnover" are being obtained from manufacturers.

The subject of paint legislation first became important during 1904 in connection with proposed pure food legislation. Nothing serious happened, however, until 1905, when out of a clear sky came the North Dakota paint law. This law was contested in the United States courts as unconstitutional because confiscatory and discriminatory, but was finally affirmed by the U. S. Supreme Court. Other paint laws promptly appeared in a number of State Legislatures, each attempting to improve upon the rest. If enacted a different practice would have been required in each of half a dozen States. The committee at first resisted all paint legislation as unnecessary, but when it became inevitable succeeded in having the laws made conformable, one to another. They also called a conference of Food Commissioners of the States in which these laws were adopted and reached an agreement providing for uniformity in practice. The laws of Minnesota, South Dakota and Iowa were improved in several respects over the original North Dakota law by advice of this committee.

A general conference was called at Cleveland on April 28, 1908, at which a resolution was unanimously adopted declaring formula legislation to be unnecessary, useless and unjust, but pledging the industry to the support of legislation penalizing misbranding or misrepresentation and requiring full weight and full measure in packages.

The extravagant guarantees formerly in vogue received attention at the first meeting of the association. Through its efforts they have now been largely eliminated, and the trade has been improved thereby.

During 1908 the Transportation Committee succeeded in mitigating the regulations proposed for the transportation of inflammable articles, and at about the same time an efficient committee on cost accounting was appointed and has undoubtedly effected far-reaching reforms in former methods or lack of methods.

In 1910 indications from the Northwest having for several years foreboded a gradual abandonment of flax cultivation, the Educational Bureau suggested the establishment of a joint committee to work in conjunction with the agricultural college of the States concerned to promote interest in the crop and to assist in improving it. This committee promptly began the collection of funds, and has ever since vigorously promoted interest in flax culture throughout the Northwest. Some of the results achieved have been astonishing, and it is probably safe to say that but for its work the cultivation of flax would have been ere now abandoned in many producing districts.

In 1911 a special Committee on Freight Classification and Regulations was appointed, which during several succeeding years performed valuable and effective service in connection with the revision of classification schedules then in progress. During the same year, in pursuance of a policy previously expressed, the association urged its members to discontinue the use of the term "white lead" on all products not properly so designated. Continued efforts along the same general lines have resulted in the general abandonment of the practice.

At about the same time the activities of the Fire Prevention Association in advocating certain drastic revisions in local fire ordinances aroused considerable interest, and a committee created for the purpose succeeded in having the proposed "model ordinance" so modified as to be acceptable to all concerned.

During the tariff revision under consideration by Congress in 1913 the Tariff Committee rendered most effective service, both to the industry and to the national government, and at the present time the same committee is active in connection with pending tariff revision.

Interest in the soya bean oil as a possible paint material was aroused early in 1912 by importations from Manchuria, and the Educational Bureau promptly took up the matter. Importation of numerous varieties was made, and L. P. Nemzek, for the bureau, visited all the agricultural experiment stations of the country and secured their co-operation in experimental planting. This work was continued until the beginning of 1918, when the crop and the manufacture of the oil had been fully established in the Southern States.

In 1913 the association began its co-operation with the National Lumber Manufacturers' Association to reduce the fire hazard of wood shingles, which eventually led to the invention by Mr. Gardner of "Pamak" paint, its indorsement by the Lumber Association and license for its manufacture by a number of paint manufacturers.

The Paint Manufacturers' Association and the National Varnish Manufacturers' Association have been meeting in the same city during the same week, and on matters of common interest joint committees are appointed.

In 1917 a War Service Committee was appointed and became the chief adviser of the government in the matter of paint specifications and purchases, and later one of their number, L. R. Atwood, was placed in charge of the paint and pigment section of the War Industries Board.

In 1916 the association became a member of the newly organized National Federation of Construction Industries, of which one of its members, E. T. Trigg, had been elected president, and in 1920 established a standing committee to represent it in that federation.

National Varnish Manufacturers' Association

GEORGE B. HECKEL, Secretary

This association was organized at Chicago on November 19, 1903.

Some twenty-five manufacturers signed the by-laws.

R. B. Donham acted as temporary chairman, and the permanent officers elected were:—

President, Mr. W. S. Potwin, Chicago Varnish Co.

Vice-presidents, W. H. Andrews, Pratt & Lambert, and L. C. Gillespie, Chas. H. Gillespie & Sons.

Treasurer, W. S. Hanna, Columbus Varnish Co.

The subjects discussed included shortages in gums, fillers, barrels, scales, etc., and a committee was appointed to interview the American Can Co., with a view to uniformity in gallon cans, and another committee to take up with the Standard Oil Co. the possibility of buying naphtha by weight.

A committee on promotion and publicity was also appointed, with instruction to advise the trade that a number of manufacturers were successfully using wood turpentine in their products.

Thus from the beginning of its career this new association has directed its attention to those matters which affect the industry as a whole, rather than to details which are within the jurisdiction of individual concerns.

On the broader matters affecting the general interests of the paint and varnish trade as a whole, such as legislation, tariff, freight rates and classification, fire insurance, publicity, it has efficiently co-operated, through its committees, with the National Paint, Oil and Varnish Association and the Paint Manufacturers' Association of the United States.

As early as 1907 the association took cognizance of "graft," and unanimously voted in favor of the national legislation to suppress the practice; and in 1917, after the establishment of the Federal Trade Commission, adopted an agreement to suppress it, secured the adoption of an identical agreement by the Paint Manufacturers' Association, made signature to the agreement a condition of membership, and established a bureau at Washington.

In 1920 an amendment to the by-laws was adopted directing the board of directors to expel any member found, after due hearing, to have violated or consented to the violation of the anti-rebate agreement, and in 1921 this amendment was put into effect.

The work of the Transportation, Legislation and Plant Superintendents' committees and the Educational Bureau has been of especial benefit to the industry at large.

A monthly bulletin, in the maintenance of which this association and the Paint Manufacturers' Association co-operate, is mailed monthly to every paint and varnish manufacturer in the United States. This serves to keep the entire industry informed of the progress of association work.

In 1917 the plant superintendents of the association held a meeting and organized as a Plant Superintendents' committee of the association. At the annual meeting held in Chicago in 1919 it was definitely decided to organize the technical membership in all localities, hold regular meetings and exchange information through the secretary. Resumes of the minutes of these meetings are now transmitted monthly to all technical members in the form of a printed Digest.

In 1920 the Paint Manufacturers' Association organized a similar committee to co-operate in this work, nationally and locally.

Supplementing this activity, Service Bulletins have been issued at frequent intervals from the secretary's office. They consist chiefly of abstracts of the opinions and experience of the membership with specific problems and have proved of great value to the members.

Since 1904 the Paint Manufacturers' Association has maintained an educational bureau, with research and experimental laboratories, supplemented by a publicity organization. Much of the work of this bureau has been equally valuable to the varnish industry, and in 1919, on invitation of the Paint Manufacturers' Association, this association unanimously voted to participate in the work, on a basis mutually satisfactory. Since that date all publications of the bureau, as well as all information issued thereby, have been mailed regularly to our membership since its inception, also, this association has participated fully in the "Save the Surface" campaign.

National Paint, Oil and Varnish Association

GEORGE V. HORGAN, Secretary

Thirty-five years ago a little group of far-seeing men in New England, awake to the value of co-operative effort in business, formed The Paint and Oil Club of New England. The success which attended their efforts resulted in the formation of a similar organization in New York, and out of this nucleus grew the National Paint, Oil and Varnish Association, Inc., one of the largest and most aggressive trade organizations in the country, with a membership of over fifteen hundred.

This parent organization is made up of forty-five constituent organizations in the principal cities of the United States and Canada. In addition, individual concerns to the number of approximately one hundred are enrolled in communities where no local organizations operate.

The affairs of the association are directed by its president, five regional vice-presidents, treasurer and secretary, who, with the last past previous president, constitute the executive committee of the organization. The directorate is composed of one member from each constituent organization, and all of the activities of the association are cleared through the office of the national secretary, with permanent headquarters at 342 Madison avenue, New York City.

Some of the matters handled by the association through its several committees and bureaus are:—Arbitration, credits and collections, paint trade mutual fire insurance, legislative, standardization, development of raw materials (flax, miscellaneous oils, etc.), statistics, tariff, trade-marks, freight rates, etc.

Business promotion work is very effectively carried on in those two splendid campaigns, "Save the Surface" and "Clean Up and Paint Up." These two movements are directed through separate bureaus, but have the unqualified endorsement and support of the association.

During the course of the year the president and secretary officially visit the constituent organizations, on which occasions matters of interest to the trade are discussed and ideas exchanged between the various communities through the national officers.

In the fall of each year the annual convention is held, usually alternating between the East and West. At these meetings a very carefully arranged program of constructive subjects occupies the attention of the delegates and members for several days. Chairmen of the several committees submit their annual reports, with recommendations; resolutions are acted upon by the convention, and a number of addresses are delivered, not only by the officers and prominent men in the association, but by notables outside the industry.

Entertainment is provided between business sessions, and as a result of the combined program the annual convention is eagerly looked forward to and largely attended.

The association is affiliated with the United States Chamber of Commerce, and through its national councillor and Chamber of Commerce committee is represented at all of the meetings of that body.

Believing that trade associations are becoming increasingly important and must be of an unselfish character, clearly in the interest of the public as well as the industries represented, The National Paint, Oil and Varnish Association is earnestly endeavoring to perform its full part.

The secretary issues to members regularly bulletins, in which are detailed the "up-to-the-minute" activities of the various committees, bureaus, etc. This bulletin is edited in brief, pithy form and affords members opportunity to quickly sense what is going on in the industry.

The destinies of the association for the current year are under the guidance of Ernest T. Trigg, of Philadelphia, president; March G. Bennett, Boston, vice-president, representing the Eastern Zone; Robert V. Thomas, Chicago, vice-president, representing the Central Zone; Robert S. Wessels, Atlanta, vice-president, representing the Southern Zone; F. M. Brininstool, Los Angeles, vice-president, representing the Western Zone; George Henderson, Montreal, vice-president, representing the Canadian Zone; David E. Breinig, New York, treasurer; George V. Horgan, New York, secretary.

How to make 1922 the greatest paint and varnish year is the objective in which the association is deeply interested, and is endeavoring in every practical way to provide the impetus for. The officers of the association feel that there never was a more opportune time to accomplish this result, and firmly believe that the constituent paint clubs of the organization have great opportunity for service to their respective communities in getting strongly behind the objective.

Undoubtedly there are members who joined the National Paint, Oil and Varnish Association in its early days on the general principle that it was simply a good thing and deserved their support. Membership in the association is an investment which offers a full return. The men who gave unselfishly of their time and talents to the progress of the association have "builded better than they knew"; it has been more than a good thing and deserving of support; it has developed a service of practical benefit to our present large membership. All glory to those builders who through their labors have made and are making possible the continued progress of our association. It is not out of place here to express on behalf of the membership and the whole industry to the OIL, PAINT AND DRUG REPORTER deep appreciation of the splendid support and co-operation accorded the association so generously at all times.

Interstate Cotton Seed Crushers' Association

Major ROBERT GIBSON
Secretary

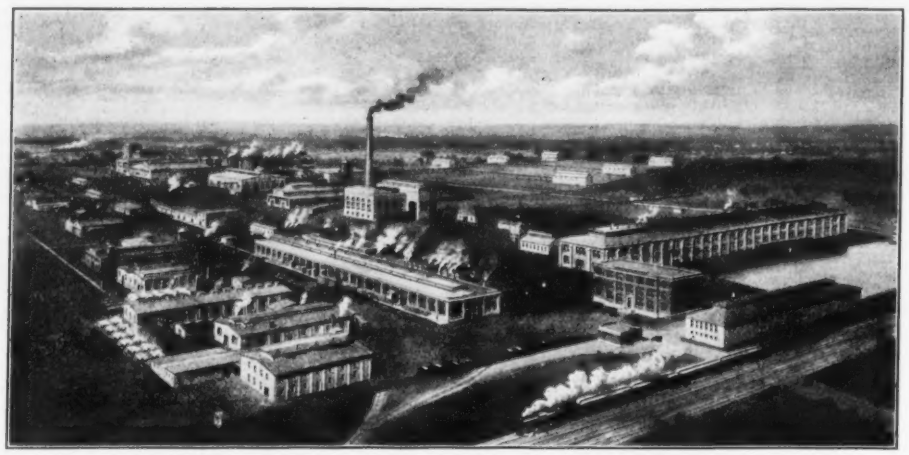
Men interested in the Cotton Seed industry met at Nashville, Tenn., in July, 1897, and formed the Interstate Cotton Seed Crushers' Association. Texas had formed a successful State association more than three years before. Louis K. Bell, of the OIL, PAINT AND DRUG REPORTER, was one of the moving spirits in the wider movement, and for many years afterward was active in the work. The Interstate Association has grown rapidly and steadily, and as steadily has broadened the scope of the mutual co-operation among its members and the systematizing of the operations of a great industry.

From the first there has been close relationship between the mill men and the farmers. Probably no other farm product is handled so directly as cotton seed into the hands of the manufacturers, and certainly no other pays to the producer a price with so narrow a margin between the cost of the raw material and the selling price of the finished products. It is the oil mills that have encouraged the better care of cotton seed, the raising of peanuts and other oil-bearing crops, and the wider use of the materials made from these products of the farm.

Starting with a score or more of members, the Interstate Association has grown to more than a thousand. It has members in every part of the world. Its annual meetings are occasions for the gatherings of hundreds of men.

Among the earliest efforts of the association was the framing of trading rules for the handling of all of the products of the mills. As a ready consequence there were formed committees before which the members might take their disagreements in the applications of these rules. The rules have been so improved by time and experience that they are now in a form used by practically all persons dealing in any manner in cotton seed products and kindred materials.

Co-operating with the Federal food and drug officials and the State feed



Four Points About Dyes

A Policy of Importance to You

There are just four points to keep in mind when buying dyes and intermediates.

First: quality; second: unvarying uniformity; third: reasonable prices; and fourth: the ability of the manufacturer to supply promptly and in quantity.

The Calco Chemical Company has made these four points the keynote of its producing and marketing policy. To meet them our plant is specially equipped. To their fulfillment we bend every effort. And the Calco diamond mark upon every container is our way of telling you that this standard has been maintained.

The Calco policy of specialized and concentrated effort in the production of a very limited number of products enables us to live up to these high standards.

YOU can be sure that every barrel stamped with the Calco diamond will meet your most exacting requirements—at a remarkably low cost.

Calco

THE CALCO CHEMICAL COMPANY
Bound Brook N. J.

New York Boston Philadelphia Chicago

control representatives, the association has aided in bringing about a standardization in definitions of feedstuffs and foods made from the outputs of the mills, so that all over the country, and generally over the world, the descriptions given by the mills suffice for the materials wherever they are handled. As a very essential part of this standardization, the chemical analysis of the raw materials and products has come about and forms the basis for the application of the rules. And with the analysis, it was necessary that there should be uniformity in sampling. So that there now are in many places official weighers and inspectors to serve the members of the association, in furnishing samples for use of certified official chemists, and in supplying data for guidance in preparing trades and making sales, and for consideration by the arbitration committees when their services become necessary.

Persistent advertising in carefully selected publications, useful information as to the products and the possibilities attending their wide distribution, and books showing the proper methods of feeding, fertilization and fruition, have required the outlay of large sums of money and the unselfish devotion of many men. As a result, the products are known and used universally.

In systematic publicity, several trade journals have been and are the official publications of the association, and they are doing a splendid work in spreading information, encouraging use, inspiring improvement in manufacturing and distribution methods, and urging sufficient production and protection for the materials supplied by the American farmer. As further impetus to these good ends, "The Cotton Oil Press" is issued monthly by the association and is the property of the organization.

Improving of freight service and lowering of freight rates to fair parity with rates on similar and competing commodities has been the work of a very active committee of the association for years, and excellent results have come of the endeavors.

Fire insurance has engaged the study and efforts of some excellent committees, and from their labors have come a better appreciation by the members of the necessity for fire prevention and reduction of hazards in construction and in operation, and a fairer adaptation of rates to the risks involved.

The secretaryship, discharged by Robert Gibson from the forming of the association, has always been a very busy position, and its duties have greatly expanded as the years passed. Through it, the members have been kept in close relation to each other, and all the functions of the association have been facilitated. So efficiently has the office been administered, the Food Administration of the Federal Government in war time, had its touch with the mills and manufacturing establishments through the secretary of the association, even when the persons and concerns involved were not in the membership of the organization.

Because the growing usefulness of the association made more and more demands upon the time and energies of the president, the association engaged since 1916, an assistant to the president, to relieve the chief officer of much detail, to study and suggest promotional activities and measures for the general welfare of the members, to outline and with the approval of the association to execute the publicity undertakings, and to keep the association properly informed on all matters affecting the industry. For this work, an office for the association is maintained in Washington, and is in constant touch with governmental agencies, with commercial enterprises, with State associations of many sorts and with persons and influences of value to the great farming, crushing, refining and trading operations of the land. The assistant to the president from the creation of that position has been Louis N. Geldert.

A year ago, the Interstate Cotton Seed Crushers' Association was chartered under the laws of the State of Louisiana. This was done for the better protection of the members and the greater dignity and effectiveness of the organization.

Manufacturing Chemists' Association

JOHN I. TIERNEY, Secretary

The Manufacturing Chemists' Association of the United States, organized in 1872 by manufacturers engaged principally in the production of sulphuric acid and thus completing this year a half century of existence, is the oldest organization in the chemical industry in the country. The objects of the association as set forth in the constitution, revised in 1873, were to provide protection against unwise legislation and unjust freight discrimination and to promote and aid any other matter of general interest to the acid and chemical industries.

Among the charter members of the association were the following:—Gridley & Coffin, New York; A. Cochrane & Co., Boston; Harrison Brothers & Co., Philadelphia; T. P. Shepard & Co., Providence; Savage, Keyser & Stovell, Philadelphia; Lodi Chemical Co., James L. Morgan & Co., New York; Symington Brothers & Co., Baltimore; Charles Pfizer & Co., New York; Marsh & Harwood, Cleveland; E. Grasselli & Co., Cleveland; Charles Lennig, Philadelphia; Highland Chemical Works, New York; Powers & Weightman, Philadelphia, and New Haven Chemical Works. In 1873 these names were added to the list:—M. Kalbfleish's Sons, New York; Rosengarten & Sons, Philadelphia; Pennsylvania Salt Manufacturing Co., Philadelphia; Walton Whann & Co., Wilmington, Del.; New Jersey Chemical Co., Philadelphia, and Moro Phillips, Philadelphia. In the following year G. H. Nichols & Co., New York; Chemical Co. of Canton, Baltimore; Merrimac Chemical Co., Boston, and Henry Bower, Philadelphia, were admitted to membership.

One of the first problems to engage the attention of the association was the establishment of standard strengths of acids for use of manufacturers and consumers. In May, 1875, a committee consisting of Messrs. Nicholas Lennig, James Coolidge and T. P. Shepard was appointed to prepare a report on oil of vitriol and to present a table for sulphuric acid. This was followed by the publication of a table of the elements with chemical and physicial data, and short historical sketches of the discovery, etc., of the different elements.

In December, 1881, a committee was appointed to prepare a table giving the strengths of sulphuric acid for different specific gravities and degrees Baume at different temperatures. This committee consisted of Messrs. E. D. Pearce, Jr., Providence; W. H. Nichols, New York, and Nicholas Lennig, Philadelphia.

The following year another table was published, prepared by Messrs. E. D. Pearce, Jr., Providence; Nicholas Lennig, Philadelphia, and Henry Bower, Philadelphia, and that table remained the standard until 1904. In the latter year the association at considerable expense prepared standard tables not only for sulphuric acid but for hydrochloric acid, nitric acid and aqua ammonia, and these tables have been in constant use up to the present time, being recognized by manufacturers and consumers as accepted standards.

The association early took an active interest in national legislation affecting the chemical industry. As far back as 1878 there was a memorial presented to the Ways and Means Committee of the House of Representatives, Hon. Fernando Wood, chairman, setting forth the needs of the industry. The memorial was signed by Alexander H. Jones, chairman of the Tariff Committee of the association, who was connected with the firm of Powers & Weightman; Thomas S. Harrison and Henry Bower, secretary. From that day down to the present time the association, through special committees or by its Executive Committee, has assisted in the writing of every tariff bill, furnishing members of the Ways and Means Committee and the Finance Committee expert information on the technical character and composition of the commodities in the chemical schedule.

In the earlier tariff work of the association one of the most active members has been W. H. Bower of the Henry Bower Chemical Manufacturing Co., who has been called in consultation by every chairman of the Ways and Means Committee from Mr. Randall to Mr. Payne.

In drawing the Payne-Aldrich bill Henry Howard, chairman of the Executive Committee, was asked by Senator Aldrich to act as his personal adviser in writing the chemical schedule, and since then has been the moving spirit in the association's activities in tariff and legislative matters. Adolph G. Rosengarten with his fund of information regarding the chemical business, espcially in fine and medicinal chemicals, has been for many years, and is today, one of the strong men on the Executive Committee, whose advice is frequently sought in Washington, and finally Dr. Charles L. Reese, chemical director of the Du Pont Co. and now president of the association, brings to the Executive Committee a knowledge of the intricacies of the chemical industry which is held by a few in this or any other country.

In anticipation of tariff revision during the present Congress the association through half a dozen group committees made a scientific study of the chemical industry, showing the demoralizing effects of foreign competition produced by the breakdown of European currencies. When hearings were called by Chairman Fordney of the Ways and Means Committee in January, 1920, the association through its several committees was prepared to present a complete program based upon scientific consideration of the abnormal elements threatening the chemical industry. From that time to the present the association has been active in bringing to the consideration of the tariff makers material facts necessary for a just and equitable readjustment of tariff rates.

Within its membership the association has the initiative and enterprise to discover new processes and to bring them to commercial success. This latent power in the chemical industry was effectively employed during the war, when supplies of dyestuffs and other chemicals which had been imported from abroad suddenly were cut off. In a period of time measured by months the American chemical industry had satisfactorily solved the problem and by employment of capital on a most liberal scale had succeeded in producing the necessary dyes and medicinals which previously had been the product of foreign manufacture. In order to foster this newly developed branch of the chemical industry the necessity was impressed upon leaders at Washington of providing tariff protection, and the Manufacturing Chemists' Association was called to their assistance in preparation of the rates. Special committees of the association spent much time in Washington with the Ways and Means and Finance Committees. The Hill bill finally resulted, the first measure to give encouragement of any material proportions to American dye manufacturers. In the short space of seven years there has grown up an industry with a capital investment of more than $200,000,000 and an output which in a few years will be able to compete in all the markets of the world.

Another act of constructive legislation in the framing of which the association and A. H. Weed, the then secretary, had no small part was the Webb-Pomerene Export Association law, which removed from American exporters the handicaps contained in domestic anti-combination laws that placed them at a disadvantage with foreign competitors. Under the immunities of that act export trade increased tremendously and new markets in all parts of the world were opened by American manufacturers.

At no time in its history has the industry more sensibly realized than at present the need for an organization through which to carry on co-operative efforts for the general good of all its members. In this period of depression attendant upon after-war readjustment there are countless problems which can be solved only through united action. These problems are industrial, economic and political, and no company is free from the difficulties and disabilities pressing on every hand.

The co-operative work done by the association in the past, consisting largely in standardizing methods of manufacture, uniform nomenclature of chemicals for freight classification and establishing uniform rules for packing and transportation, are now proving their exceptional value in working out problems of the present. For many years the association has had standing committees on standardization, on transportation and on uniform packages. These committees have worked in co-operation with similar committees of other organizations. A notable case in point is the contact that has been established with the Bureau of Explosives, an organization of the American Railway Association, through which regulations for packing and shipping acids are issued. Studies and investigations carried on jointly by the association's committee and the Bureau of Explosives have resulted in establishment of practices that have reduced to a minimum losses from breakage. A standard carboy package test apparatus has been adopted upon recommendation of the carboy test committee, and regulations to be published by the Interstate Commerce Commission this spring will make effective the committee's recommendation.

The association has also successfully negotiated the establishment of uniform classification of acids in carboys. These classifications were agreed to as a result of conferences between the traffic committee of the Manufacturing Chemists' Association and the classification officials of the carriers.

Among the prominent early members of the association were:—Dr. William H. Nichols, now chairman of the board of the Allied Chemical & Dyes Corporation; C. A. Grasselli; James L. Morgan, Jr., father of Lancaster Morgan, the latter now and for many years a member of the executive committee; Alonzo P. Howard, father of Henry Howard, for many years chairman of the executive committee; James Gridley, John M. Goetchius, Hugh Cochrane, George Harrison, General Thomas Harrison, C. J. Howard, Mitchell Rosengarten, Henry Pemberton, Theodore Armstrong and Austin Purves.

The officers of the association are:—President, Dr. Charles L. Reese, E. I. du Pont de Nemours & Co.; vice-presidents, H. H. S. Handy, Semet-Solvay Co., and C. Wilbur Miller; treasurer, S. W. Wilder, Merrimac Chemical Co.; secretary, John I. Tierney. Executive committee:—Chairman, Henry Howard, Grasselli Chemical Co.; Adolph G. Rosengarten, Powers-Weightman-Rosengarten Co.; Lancaster Morgan, General Chemical Co.; C. Wilbur Miller, Davison Chemical Co.; D. W. Jayne, The Barrett Co.; H. H. Dow, The Dow Chemical Co.; E. L. Pierce, Solvay Process Co., and Dr. Charles L. Reese.

Thomas Carlyle said that the degree of a people's civilization is determined by their consumption of sulphuric acid and in the cultural advancement of America, measured by that test, the Manufacturing Chemists' Association feels it has been privileged to play a not inconsiderable part.

American Drug Manufacturers' Association

W. J. WOODRUFF, Secretary

The birth of the National Association of Manufacturers of Medicinal Products occurred on February 7, 1912, and was heralded throughout the pharmaceutical and medical worlds as one of the distinctly notable commercial events of the year. The organization was designed to be representative of manufacturers of products ultimately used on physicians' prescription, and the twenty-nine firms represented at the organization meeting consisted of pharmaceutical, chemical, biological and surgical dressing manufacturers, with a combined production amounting to over 90 per cent. of the total American output of these industries. Later, crude drug millers and essential oil producers were held eligible to membership, and firms of these groups were admitted.

Since 1912 the American Drug Manufacturers' Association, as it has since been named, has more than doubled its membership, established contact with eight times the number of individuals who were first interested in it as representatives of membership firms, increased its lines of activities from the single one of legislation in 1912 to twelve in 1921, and multiplied its sources of information from 19 one and two-page letters in its first year to 200 four and five-page bulletins in its last.

To outline this development chronologically, protection against unduly oppressive legislation remained the association's single excuse for existence during the years 1912 through 1916.

The establishment of a separate office of its own, with a paid staff devoting all of their time to its work, gave it first impetus toward broader things. This was in May, 1916, the first step outside the legislative field taking the form of a trade-mark bureau.

The second step was the establishment of a Committee on Standards and Deteriorations, whose purpose it was to band together the technical men of the industry in the task of improving the stability of medicinal products generally and the accuracy of the tests by which they are assayed. The committee is now the Scientific Section, and its constitutional limitations have been broadened to cover all study and research in the interest of making manufacturing chemistry and pharmacy of greater service to mankind.

The potential field of activity of a trade association is limited only by the problems involved in the different functions of its individual members, and, in 1917, new committees were added, which broadened its field to problems of transportation, salesmen, insurance, drug markets, foreign trade, patents and trade-marks, and credit and collections. During these years certain committees that are really offshoots of the Committee on Legislation were called into being because of emergency conditions, namely, the Committee on Social Insurance, the Committee on Industrial Preparedness, and the latter's successor, the War Service Committee.

In 1917 and 1918, the war gave the association an opportunity for practical service in another direction. In the sugar shortages, fuel shortages, and other shortages, it succeeded in the majority of its efforts to secure supplies for different members and to save them from losses amounting to many thousands of dollars.

Plans are under consideration by the Executive Committee for a much larger and more effective association, but they have not yet advanced to that point where it is considered wise to announce them publicly. They will be founded, however, upon a reorganization of the association into five groups, each representative of a distinct group of the membership, namely, a Biological Section, a Crude Drug Section, an Essential Oil Section, a Medicinal Chemical Section and a Pharmaceutical and Surgical Dressing Section. When these plans are completed a constructive program of considerable magnitude will be undertaken in behalf of each group.

A SKY LINE AND A DYE LINE

On one side of the picturesque and historic Hudson is the most beautiful sky-line in the world, while on the opposite shore, buttressed by the Palisades, is a great manufacturing center, including Newark and environs.

One of the first to realize the natural geographic advantages of the section for manufacturing purposes was the Central Dyestuff & Chemical Co., which undertook the manufacture of an extensive line of dyestuffs back in 1898. The company makes most of the intermediates entering into the manufacture of its Acid, Basic, Chrome and Direct Colors.

Removed but a short distance from the Central plant is that of the Consolidated Color & Chemical Co. The colors made by them are augmentative to those of the Central line, including many of the important Sulphur group, so the result of these two is a complete and well-balanced line of Acid, Basic, Chrome, Direct and Sulphur Colors, as well as nigrosines, oil colors, wood stains, turkey red oils and the like.

In conjunction with these the Consolidated Color & Chemical Co. also produces a line of sizing, softening, bleaching and finishing materials, known to the trade as the "VICTORIA" products.

The products of the two companies are distributed through the sales organization of H. A. Metz & Co., Inc., having its principal office at 122 Hudson Street, New York, with branches in Boston, Providence, Chicago, Philadelphia, Charlotte and San Francisco.

In addition to these ***Made-in-America*** products we will procure for you on import licenses colors not as yet made here in sufficient quantity or of suitable quality or at reasonable prices.

This alignment of manufacturing facilities enhanced by access to goods not available here, administered by men whose equipment includes an experience of more than forty years, must appeal to all consumers of dyestuffs.

H. A. METZ & CO. Inc.
One-Twenty-Two Hudson Street, New York City.
Boston Philadelphia Providence Chicago
Charlotte San Francisco

HA
M E
T Z
CO
Trade Mark
Reg. U. S. Pat. Office

©Aero Photo--Maj. Hamilton Maxwell

Reminiscences of the Petroleum Industry

Col. J. Payson Bradley, president of the Seccomb-Kehew-Bradley Co., of Boston, began, in 1866, to work for the Downer Kerosene Oil Co., of South Boston, of which his cousin, Joshua Merrill, a chemist, was manager. He was then a lad of eighteen. In point of service he is one of the oldest men still active in the petroleum industry, and his reminiscences about the early days of this business which has assumed such vast proportions are as interesting as a novel and as instructive as a text-book. Some of them are here given.

When Col. Bradley went to work in the refinery of the Downer company, there were still in place several of the old retorts which had been used up to 1865 in making kerosene from shale, boghead coal, as well as cannel coal from the Breckinridge coal mines in Kentucky, for the few coal-oil refiners who did business in the late fifties did not feel quite sure that the petroleum oil, which made its first appearance in Col. Drake's well, could be produced in sufficient amounts to furnish a permanent supply. Therefore, while cautiously putting in stills to refine the new material, they did not junk their retorts, but held them in hand in case of an emergency, which up to the present time has not arisen—but may in the future.

Downer kerosene was well known and selling on the market for over a dollar a gallon several years before the drilling in of the Drake well in Pennsylvania on August 28, 1859. After the discovery of petroleum in commercial quantities, rapid progress was made in the manufacture of its numerous products, and to Mr. Merrill great credit should be given for the carrying on of this work.

In the early days the stills of the Downer company were very small, holding when charged not over fifty 42-gallon barrels each. The oil was brought from the Pennsylvania oil region in small wooden upright tanks built on each end of a platform car directly over the trucks. The entire production of crude oil in the United States in 1866 was a little over three million barrels. The daily average production in the United States for the week ending December 31, 1921, was 1,407,750 barrels.

The early paraffin or lubricating oils produced outside of a half-dozen refineries would hardly pass muster for any purpose today. They were thin in body, dangerously low in flashing point, and of an extremely pungent and disagreeable odor. Nevertheless, when compounded with sperm, lard or neatsfoot oil they made an economical and acceptable lubricator. The naphtha or light ends (gasoline) was most of the time a nuisance to the average refiner, who strove in every imaginable way to get rid of it at the least possible expense to himself, and at times when its price was so low as to exclude its being put up in packages for shipment, it was allowed to evaporate in the open air.

In 1868 Col. Bradley, who had by studying nights while employed by the Downer company acquired a fair knowledge of mechanical engineering, was asked to act as engineer and draftsman for the New England Liquid Fuel Co., of which Robert Treat Paine, of Boston, was president. While he was so employed he invented and, in connection with Lieutenant Stymers of the United States Navy, perfected what he describes as the first successful crude-oil burner, the basic principle of which is used today. This invention was tested in the "Island City," a locomotive on the old Fitchburg Railroad, as well as in a self-propelling steam fire engine at Boston, and also in smelting ores. While it proved a mechanical success, it could not compete in cost with bituminous coal, which at that time was very cheap, while oil was comparatively high, ranging from $2 to $4 a barrel of 42 gallons.

One of the most important discoveries in petroleum lubricating oils was made by Joshua Merrill when he perfected and patented in 1869 his deodorized heavy hydrocarbon oil, which led the way in replacing with a petroleum product nearly all the other oils for the purpose of lubrication. This discovery was followed soon after by the bringing out of a 300-fire-test burning oil, which was also patented and placed on the world's markets as "mineral sperm oil."

When high-grade crude oil was about at its lowest value, averaging 60 cents a barrel at the well, Col. Bradley reopened the old Cow Run oil field near Marietta, Ohio, which was first discovered in the sixties, but after being drilled to the second sand along the bottom of the run by the old wet process, was abandoned. Several thousand acres of land were leased along Cow Run and Duck Creek, and after a good gas well had been struck at 2,000 feet in the Berea sand and a small oil well in the 600-foot first Cow Run sand, several hundred wells were drilled to the six different sands that were found in that part of Ohio. When the United States entered the World War in 1917, Col. Bradley and his associates liquidated the company, selling all its leases and other interests to Ohio men.

Romantic Story of American Fertilizer Industry

United States paper money was never as low in value as some of the European kinds now are, but for several years after the Civil War gold was at a premium in this country and trade was affected—favorably or adversely, as the case happened to be—by that fact.

In 1871 Adolph Hirsh went from Chicago to Jersey City to take charge of the blood albumen factory of Stein, Hirsh & Co. This Jersey City branch had what Mr. Hirsh now reminiscently calls a "meteoric career." It had the privilege of delivering its products to customers of the Chicago house on the basis of existing contracts, at 30 cents a pound, currency, but its first week's output, amounting to five cases of about 300 pounds each, was readily sold at 65 cents a pound, gold, which at that time commanded a premium of about 12 per cent. From that time on each week's output for several months was sold at advancing prices, until 97½ cents a pound was reached.

The result was inevitable: on the one hand, says Mr. Hirsh, it so turned his head that he foolishly refused all opportunities to make sales at prices below the maximum, and began accumulating large quantities of the product in the warehouse. On the other hand, he failed to anticipate the inevitable result of the violent rise in price, namely, that the print works would be compelled to abandon the use of albumen and seek substitutes. He sums up the sequel in a few meaningful words: "I declined an offer of 50 cents a pound, currency, for my accumulation of over a hundred cases, and during the following year was glad to find buyers for it, in two to five case lots, at 15 to 15½ cents."

In the handling of tankage, dried blood and other fertilizer materials in the years that followed, Mr. Hirsh came into contact with many of the leading manufacturers and financiers of that period. "I had the good fortune," he says, "to gain the confidence and friendship of such notable pioneers in the fertilizer and packing and chemical business as E. Frank Coe, William L. Bradley, William H. Bowker, Russel Coe, H. L. Dudley, Philip D. Armour, H. O. Armour, Anderson Fowler, Clement Read, Isaac Read, S. T. Morgan, William H. Nichols, James L. Morgan, Captain N. B. Church and Captain Dan Church, pioneers in the menhaden industry, and other captains of industry, both North and South, and such charming, broad-minded bankers as Alexander Gilbert, Conrad N. Jordan and Lyman J. Gage."

Being in a humor to talk and his memory functioning admirably, Mr. Hirsh continued: "In the early stages of my connection with the fertilizer business the Northern fertilizer manufacturers furnished phosphates only in the form of dissolved bone and dissolved bone black, after the latter was discarded by the sugar refiners. This spent bone black was given away for the hauling, as was the sugar house scum, produced by the coagulation of blood albumen put into the vat containing the raw sugar in solution, to such fertilizer manufacturerrs as Bradley & Coe.

"In the early '80s I persuaded my friend E. Frank Coe to buy a ten-ton lot of acid phosphate which had been in storage in a cellar near Brooklyn Bridge for a year, because George De Metz, to whom it was shipped from Europe as a sample, had been unable to find a buyer for it. After Mr. Coe had had it at his factory for about a week he sent for me and scolded me terribly for selling him 'dissolved rock' when I should have known that he would not risk his reputation by giving to his former customers any other phosphate than animal bone or bone black. Mr. Coe kept that little lot of acid phosphate for two years before he could make up his mind to make use of it.

"Mr. Coe was the largest buyer of fish scrap. In those days they sun dried the cooked fish—after the oil had been pressed out—by spreading them on wooden platforms laid on the sand. Whenever it 'looked like rain' they moved the partly dried scrap into the sheds on wheelbarrows. The next morning, if the weather permitted, the scrap was wheeled out and spread on the platforms. In course of time the boards forming these platforms warped or cracked and big spaces formed between the boards. In my tours of inspection I frequently noticed that sand was thrown on the scrap by an army of most industrious little crabs known as 'fiddlers.' I grew to know which were likely to have scrap heavily charged with sand and which had their platforms in such good condition that the scrap would be comparatively free from that impurity. I had analyses made of each product, and then offered to Mr. Coe several lots of scrap free monia and at a price per unit of ammonia and per unit of calcium phosphate, which would make the price of these two ingredients cheaper to him than he was paying for them in scrap purchased on a flat basis—partly loaded with sand 'by nature' or 'by hand.' Again Mr. Coe violently denounced me, this time for introducing some more 'new-fangled' methods of trading, after it had taken him years to establish a 'standard' price for fish scrap of $20 a ton. It took him several practical demonstrations to convince him that it did not pay him to buy sand in fish scrap on the basis of $20 a ton. In the same way I was the first to sell him, and others, packing house tankage at so much per unit of ammonia and 10 cents per unit of phosphate in 2,000 pounds. That '10-cent measure' per phosphate unit has since that time become a fixed standard.

"Another interesting historical fact is that my firm created, or helped to create, an entirely new industry. We furnished the funds to Jobbins & Van Ruymbeke with which to demonstrate the practicability of evaporating tank waters and converting them into a solid, merchantable ammoniate, for which process they had patents. I gave to this new product, after they produced it, the name 'concentrated tankage,' and that name also was adopted by the trade. Thousands of tons of the product were produced. The history of that industry is most interesting and instructive. Conditions arose whereby others 'acquired' the benefit of our enterprise in creating this industry, and we gathered some more 'experience' instead of wealth.

"In the fishing industry we also promoted and helped put upon the market a new method of cooking, pressing and drying menhaden fish by a continuous automatic process, so that any fish which were brought into the factory by the fleet of fishing steamers during the night or early in the morning would be converted into scrap, thoroughly dried and sacked or piled in bulk in the warehouse by 5 p. m. of the same day, and the oil cleansed and pumped into the storage tanks, some distance away from the main factory, by means of a pipeline. A fine example of this process was installed by Captain N. B. Church at the factory at Promised Land, near Amagansett, Long Island, where the catch of twenty steamers a day was handled. It has since been copied by others, without even a 'Thank you.' There is some satisfaction, however, in knowing that my firm brought that perfect system into existence and that the industry has, through our efforts, been benefited thereby.

"The fertilizer business has undergone 'some' changes since 1873, but it is far from being perfect or completely modernized yet."

Reminiscences of the Paint and Chemical Trade

In a recent interview with Henry C. Stewart, president of the Westmorland Chemical Co., of Philadelphia, that gentleman became reminiscent of conditions in the trades with which he as well as the Reporter has been identified for the past fifty years, and told of some interesting features.

"How many of the great big hustling leaders in the paint trade today," he said, "ever think that fifty years ago the coming leader had to scan the papers, first thing in the morning, to find out if the Saranac, the Tecumseh, the Tuscarora or the Northumberland had been sighted off Sandy Hook, or the Breakwater or Nantucket; and he must be ready the moment she had entered at the Custom House to go down to the dock, and as soon as the bleach, or caustic, or cement, or ocher, or Venetian red, was unloaded and weighed, his duty would be to mark each cask with a diamond A, or circle B, with the name of the city or town of the consignee, and see that the importation was on its way with dispatch to its final destination. Mark the fact, that none of these commodities was made then in the United States, or, if there was any produced the industry was only in "swaddling clothes."

"Square riggers were going out, and iron ships coming in fifty years ago. The Pennsylvania, the first iron steamship built in America for trans-Atlantic trade, was launched at Philadelphia on August 15, 1872. Before that date, and for some years after it, with few exceptions, all heavy freight was carried in sailing vessels built of wood. England, however, had been constructing iron ships for years and making great progress with them.

"I can recall going to the dock to reship venetian red, made by Cookson & Co., of New Castle-on-Tyne, and brought over on the Northumberland or the Asov, regular trading barks, when the weather was close to zero, and when the ships would be frozen in for weeks at a time after reaching port.

"Our employers looked askance at each other when they met on the street, and a nod was the limit of affability. When or how the change was brought about I cannot say. Certainly America was awakening fifty years ago, and men were discovering one another. The paint, oil and drug businesses had their giants quite the equal of the leaders in other industries. I recall the Albany Aniline Works was already making fuchsine, and Warren Kirk & Co., anthracene. The great chemical concerns, such as Powers & Weightman and Rosengarten & Co., were well established.

"Each day there drifted into our little store at 47 North Front street, Philadelphia, men of small renown to their immediate contemporaries, but whose gigantic subsequent accomplishments fill us with wonder.

"To my mind, the first and greatest of them all was George T. Lewis; to him, through Charles Pratt, of New York, was developed one of the great basic companies comprising the Standard Oil Co. He was the prime moving spirit in the organization of the Pennsylvania Salt Co. He also fathered the Lehigh Zinc Co., then (1870) operating the mine of zinc carbonate at Friedensville, Pa., originally operated by Wetherill & Gilbert. Mr. Lewis' courage in financially backing the Lone Elm Lead Co., at Joplin, first producing blue lead and then white lead, to which latter was given the name 'sublimed,' was most important. His indomitable energy was first of all exercised in the interest of John T. Lewis & Brothers, of which he was a part. He had a friend who also made the little store his headquarters when in the city. The house this man started comes down to us as the A. Wilhelm Co., of Reading.

"Fifty years ago, Colonel Samuel Wetherill, to whose inventive faculty we owe the furnace that produces American oxide of zinc, was then living. He was the great-grandson of the founder of the white lead works known as Wetherill & Brother. His cousin, William H. Wetherill, the owner of the works, is still among us, and celebrated his eighty-fourth birthday on January 19.

"'Colonel Sam' and Mr. Lewis met nearly every day. Two more wholesouled or bigger men never lived.

"John, Thomas S. and George Lieb Harrison, sons of the founders of Harrison Brothers & Co., were just starting their great works at Gray's Ferry in 1872. I knew Messrs. John and Tom well. John was severe, courtly and portly, while Tom, as his name denotes, was 'hail fellow well met.' He rose to great prominence, serving his country in the Civil War as a soldier, and afterwards representing the United States for many years at Cairo as Consul-General. My heart went out to him because he was a great friend of my employer, George D. Wetherill, Jr. (afterwards head of the firm of George D. Wetherill & Co.), and because they both were 'horsemen.' Fifty years ago, a pair of trotters was the speediest way we had of getting around. Mr. Harrison's stock farm was at Pomfret, Conn. Mr. Wetherill's was at Holly Oak, Delaware. Mr. Harrison died recently. When his will was opened, it was found that he had left his entire estate of nearly a million dollars to found a trusteeship, whose duty it should be, from the income, to search out iniquity wherever suspected in high offices, and to prosecute offenders; and to set forth the records of men aspiring for public office. Thomas S. Harrison knew something about 'research bureaus.'

"There grew up with this concern one of my personal friends, William C. Wilson. On him fell, as its owners grew old, the management of their great company. Unknown, except by a small circle, this man's influence in the trade in 1872 was equal to that of anyone. Mr. Wilson, by the way, came of noted stock. He was a great-grandson of Betsy Ross.

"Harrison Brothers & Co. had two salesmen, Frederick L. Pitts and Fred H. Bendig, Sr. Both are still living and retired. I mention this to show that salesmen of the last generation had, at least, a living chance. As

CHEMICALS FOR ALL INDUSTRIAL PURPOSES ESPECIALLY FOR FLOORING

AN ANNOUNCEMENT

WE ARE PLEASED TO ANNOUNCE THE COMPLETION OF ARRANGEMENTS TO HANDLE

BETTER AND BIGGER BUSINESS

We have, therefore, increased our resources considerably, but most important is the addition to our personnel of several men with wide pre-war experience in the general industrial chemical line. We are able to offer you domestic and imported materials at prices and on conditions which will compare favorably with other sources.

We solicit inquiries for chemicals used for industrial purposes.

OFFICERS
E. K. SPEIDEN, President
L. M. WHITFIELD, Vice-Pres.
M. SPEIDEN, Secretary
A. E. ADAMS, Treasurer

SPEIDEN-WHITFIELD CO., Inc.
150 NASSAU STREET NEW YORK

BEEKMAN 6163

THE ELIM DYEWOOD FACTORY
BLACK RIVER, JAMAICA, WEST INDIES

Makers of every description of

LOGWOOD EXTRACTS

Hematine Crystals **Logwood Extracts, Liquid 51° Twaddle**
Logwood Crystals **Logwood Extracts, Solid**

Will be ready for orders in June, 1922 (this year)

NO CONNECTION WITH ANY TRUST OR COMBINE

The Proprietors grow their own Logwood on their own plantations. They have no need to purchase the raw material and are therefore in a unique position. Enquiries also solicited for Logwood Straight and Roots, Fustic, Pimento, Bitterwood, Dogwood Bark, Mangrove Bark.

everybody knows, the old firm is now part of Du Ponts.

"John Lucas, William Lucas, Fred G. Elliott. Three more giants. The first two in size, and the third in mental acumen. Mr. Elliott had grown up in the drug branch of Wetherill & Bro., and, when it was disposed of, went with John & William Lucas as a general assistant. His marvelous capacity for acquiring details rendered him invaluable to his employers, and at their decease he became head of that great organization. He was succeeded by William E. Lucas, beloved by all New Yorkers, and the latter in turn by Ernest Trigg, beloved by all the trade. The history of this great house dates back to 1849.

"There was always a close connection between the house of John Lucas & Co. and that of William Waterall & Co.; in fact, if my recollection serves me right, Mr. Waterall was a family connection of the Lucases; but, of this I am certain, Mrs. Waterall was a sister of Fred G. Elliott. Both Mr. and Mrs. Waterall are still living and the writer had the privilege of expressing to Mrs. Waterall the Philadelphia Paint, Oil & Varnish Club's felicitations to her husband on the occasion of his 85th birthday, January 20. Mr. William Waterall will be remembered by all the older members of the National Paint, Oil & Varnish Association, having been president of that organization in 1909.

"It will strike the average young man connected with the trade as almost ludicrous when I say that fifty years ago it was the habit for the principal of a concern to go from store to store and ask for prices on the articles he had inquiries for or was obliged to purchase. That is how I became acquainted with Samuel H. French, founder of S. H. French & Co. The long and honorable career of this house, and the fact that Mr. French's son, Howard B. French, has also been one of the presidents of the National Paint, Oil & Varnish Association (1896), makes him a national figure.

"It was in this manner, namely, their coming into our office for prices, that I became acquainted with Theodore Stulb of C. Schrack & Co., Benjamin Shoemaker of Robert Shoemaker & Co., and Smith Bowen, founder of the Pecora Paint Co.—men who have left their imprint on the Philadelphia paint trade.

"Going over the list of those who have been connected with the trade for fifty years or who were engaged in it in 1872, I feel as if I should have mentioned, almost at the first, my very particular friend and associate, Samuel K. Felton. One of his sons, J. Sibley Felton, is the president of the Philadelphia Paint, Oil & Varnish Club. Mr. Felton's partner, John Sibley, was quite a gentleman of the old school. Each partner named a son after the other. Hence we have Felton Sibley and Sibley Felton.

"There was a gentleman then connected with the drug and paint trade that few people have ever heard of, yet his work had a pronounced bearing on the paint business. I refer to Wetherill Peterson. In April, 1878, he was granted, after several years of litigation, a patent on the process (American). for making Venetian red. Mr. Peterson had a most remarkable history. He was born just outside of Burlington, N. J., and as a young man studied at the Philadelphia School of Pharmacy. After graduating he went into business at Richmond, Virginia. Upon the breaking out of the Civil War, he became financial agent for the Confederacy at Paris. When Richmond was bombarded by the Federal troops, his store, and a large portion of the city, were destroyed. There was no insurance, of course, and Mr. Peterson was almost penniless. He returned to Philadelphia, where he learned of a copperas factory that might be had for the asking. He took up the proposition and continued the business. Our firm, S. P. & G. D. Wetherill, Jr., sold his product, and one of our salesmen, a gentleman by the name of Benjamin Dowling, who had seen Venetian red made in England, suggested that we burn a piece of copperas in our store stove. We did so, with the result that we had a reddish brown pigment. That was the beginning of the oxide of iron business in the United States. Mr. Peterson died in 1882. In the following year we purchased his business, hence our connection with the oxide of iron industry. When Mr. Peterson started to make Venetian red, the trade would not look at any material unless it had a foreign brand. It didn't take us long to give them what they wanted, but Mr. Peterson had nothing to do with that. We bought rough staves and headings, wrapped the hoops with twine, and actually discovered a Welsh nail-maker in an obscure section of the city, who was able to make flat-head wrought iron nails. These were used in specially constructed barrels on which the brand 'Victoria' Venetian Red was burned in with a copper brand.

"There were two young men connected with L. Martin & Co. in 1872, both of whom have gone to their reward. One was Mr. William Charlton, who afterwards became a builder and was one of the contractors for the remarkable bridge which crosses the Schuylkill River at Spring Garden street in Fairmount Park, and which will be an object of interest when the exposition takes place in 1926. The other was Edwin Wolff. Wolff was a very young man in 1872. After severing his connection with the old concern, he joined with Mr. Charlton's brother and a gentleman named Bihn in founding the Bihn & Wolff Co. When L. Martin & Co. went to New York and young Luther Martin left us, the fact that it was originally a Philadelphia concern nearly slipped my memory; but the recollection serves now as a connecting link in the history of the trade between the two cities and our own history. We have had an office in New York since February, 1874, and, curiously enough, had a very close connection with the Oil, Paint and Drug Reporter through one of its earliest solicitors. His name is entirely unknown to the present generation. At first Mr. Allison was his own solicitor. Then he engaged, amongst others, Joseph J. Comstock. Mr. Comstock, through his connection with the paper, acquired an extensive acquaintance with the trade, and in the course of a year or so decided to take a position as a salesman. He was with our firm quite a while, and then returned to newspaper life.

"And just here let me interpolate the statement that this reminiscence business is risky and apt to get the historian into a position that would indicate 'pistols and coffee for two.' There are a whole lot of 'Latter Day Saints' who have had very respectable and noted lineage running back more than fifty years who probably don't suspect it.

George B. Heckel's three promising boys are grandsons, on the maternal side, of James McCloskey, a noted paint manufacturer of half a century ago, and one of the owners of the Lawrence Paint Co., which produced Lawrence Brown in the period between 1850 and 1870. William W. Hodgson, Jr., of the Phoenix Paint & Varnish Co., is a grandson of James Flinn, Sr., who had been with John Lucas & Co. for many years. Eugene E. Niece was with Felton, Rau & Sibley as a young man and succeeded to part of the business of William Evans, a noted Quaker preacher and paint maker. If my recollection serves me right, both Howard E. Yarnall and his brother, David G., of the Yarnall Paint Co., served their apprenticeship with Mr. Evans. Our friend C. L. Uebele of the Pyramid Paint Co. spent many years with Harrison Bros. & Co.

"No doubt this interweaving and outgoing will be found to be typical of the personality of many of the houses comprising the industry, and a study of the subject would be quite worth the trouble it might give the staff of some one of our trade journals.

"Our New York branch naturally threw us in close connection with some of the trade there, especially the house of C. T. Reynolds & Co. General E. L. Molineaux, Aquila Rich and R. P. Rowe were continually in touch with us through our S. P. Wetherill, especially, during the spring months of the early '70s, when paris green was coming into its own as a destroyer of the potato bug and when genuine vermilion was still used to paint the fronts of tea stores and real Indians. At that time part of 'Poor Lo's' allowance was an ounce or two of real vermilion.

"But Philadelphia and New York were not the only cities in the country. There was in Boston the noted house of Carpenter, Woodward & Morton, who dealt in paints and oils, and I think John Briggs was already grinding paints. I am uncertain as to whether our good and lamented friend George Gould had started on his own account or not. There were, however, two noted houses in the glue line, viz., D. Webster King & Co. and B. D. Washburn & Co.

"Baltimore had two firms, one of which—Wm. Davidson & Co.—produced dry paint. When the Civil War broke out our sailing ships went to the bottom of the sea by reason of the activity of the Confederate raiders. This, of course, destroyed our world's commerce completely. Among the ventures that went out was the trading to Spanish ports, especially Santander, from which place was exported 'Spanish brown.' Mr. Davidson saw an opportunity to replace it with a red metallic, which he secured from Relay, Md., and he built up quite a business for it, but which eventually, and through the competition of the ore now shipped from southern Spain, has gone out of demand as a trade article except to a very limited extent. The other firm was G. & N. Popplein, Jr.

"Pittsburgh was no mean center for manufacturing and distributing the commodities embodied in the oil, paint and drug industries in 1872. I can recall Armstrong & McKelvy; Fahnestock, Haslett & Schwartz; T. H. Nevin & Co., and Suydam, Lawrence & Co. Mr. William Lawrence, son of one of the founders of the last-named concern, was for some years president of the National Lead Co. and a leader in the conclaves of the National Paint, Oil and Varnish Association, being its president in 1893.

"In 1872 the house of Sherwin & Williams was beginning to make its influence felt in ever-widening circles from Cleveland. In Chicago we had Heath & Milligan, and Holden & Tascott in paints, and Fuller & Fuller in drugs. In St. Louis there were Meyer Bros. & Co. and Richardson & Co. in drugs, and, if not in 1872 shortly thereafter, Geo. P. Whitelaw & Bro. and Vane Calvert & Co. in paints. Peaslee & Gaulbert were under way in Louisville and three white lead companies in Cincinnati. Mr. A. T. Goshorn of the Anchor White Lead Co. was director general of the Centennial Exposition held in Philadelphia in 1876."

History of Petroleum in Commerce

While petroleum, then known as "rock oil," was sold prior to 1850, it was only in a small way as a medicine or for lubricating purposes. It was used in the crude condition only, but was recognized as having latent merits and was the object of much experimenting by chemists and men familiar with the practical refining of other oils. The first still of which we have any record was erected in 1854 by Samuel M. Kier, who operated one of 50 barrels' capacity and really produced the first burning oil. It was not until the Drake well near Titusville was successful in 1858 that refining was undertaken on a commercial scale, the first refining company being formed in 1860. From that time until the present day the industry has progressed steadily. During the 60's there were many refineries started in the oil regions and at points which could be reached either by flat boats from the Pennsylvania fields or by rail, the latter being chiefly Pittsburgh and Cleveland. There were, however, large refineries at Corry, Erie, Titusville and Franklin, the first one being built at Corry in 1862. The first pipelines were merely "gathering lines" running from the wells to nearby storage and shipping points, and it was in 1874 that a "trunk" line 40 miles in length was built from the Pennsylvania regions into Pittsburgh. Tank cars had been introduced when the Reporter was first published, but they were largely superseded in the next fifteen years by pipelines extending as far as the Atlantic Coast. The National Transit Co., a Standard Oil subsidiary, had its line in operation to New York before 1880, and was followed a few years later by the Tidewater Pipeline, which, however, was prevented for some years from reaching tidewater by the opposition of the railroad companies, which would not permit of its crossing their right-of-way. Tank steamers for ocean transportation of either crude or refined were first employed about 1885. Pipelines had been in use for crude oil some years before the experiment of employing them for refined was successfully made.

In 1870 the Standard Oil Co. was formed at Cleveland with a capital of $1,000,000, and about that time things began to happen, as the refining business had already enlisted the attention and service of men with more abundant capital and broader views, as well as more technical knowledge, than those who had figured in the earlier development of the industry that had been founded upon a product concerning which practically nothing was known ten years earlier. The first efforts at refining petroleum aimed at the production of burning oils. As early as 1865 mineral lubricating oils were being exploited, but they gained no serious importance until 1870, when the West Virginia natural lubricating oils began to get a hold on the markets. At first their cheapness as compared with animal oils attracted the attention of consumers, but only a few years later their superior merit had caused them to displace the animal product and hold the preference at more than double the prices of the latter. The production of crude petroleum in 1870 was 5,205,234 barrels, and in 1921 it is given as 469,639,000 barrels in the United States, while discoveries in foreign fields practically unknown fifty years ago have raised the world's production to about 700,000,000 barrels. This country has always been a large exporter of refined oils, but for several years has been a heavy importer of crude from Mexico, whose fields, when permitted by the political conditions of the country to be worked, have yielded about 200,000,000 barrels a year.

The first efforts of refiners was to obtain a burning oil, and the treatment of the residuum had not been successful in producing an altogether satisfactory lubricant at the time the natural West Virginia oils made their appearance. The amorphous wax in the distillates made low cold-test mineral oils impossible, and therefore barred their use in many directions. The cold-pressing system invented by Joshua Merrill of Boston overcame this defect, and a few years later Mr. Merrill stated that petroleum could be made to furnish the best lubricants for all purposes, a prediction that has since been verified. Early in the history of low cold-test American mineral oils they were introduced into Russia and found a ready market there. The mineral wax which had proved so much of a stumbling block in the way of their introduction has since shown itself to be so much superior to stearic acid from animal and vegetable oils for candle making that it now practically monopolizes that field.

The two decades from 1870 to 1890 witnessed a large increase in the refining capacity of the country, with the industry at the same time getting into stronger hands. The day of the small refiner had passed before 1890. The aggressive policies of the Standard Oil Co. for twenty-five years had brought into its hands a large number of competing plants which had either shown themselves capable of facing its competition successfully or else were willing to give up the struggle with such salvage as they could make, and the newer competition entering the field was equipped financially and in mental ability to stay. This has also been true of the concerns which have been brought into the business by the development of new fields of crude production, and today the competing forces are more evenly matched than they were prior to 1900. Much criticism of the Standard Oil Co.'s method has appeared in the columns of the Reporter from its very start, as well as in other publications and in the courts and legislatures, but whether this has been deserved or not it cannot be doubted that the existence and growth of that company has not been without benefit to the whole world. Its financial and mental resources have done more to develop this great industry in a way that has benefited all mankind than could ever have been accomplished by equal resources under divided individual management.

The shifting sources of production have brought their problems to the refiner in the varying characteristics of the crude from different fields. West Virginia and Kentucky fields were developed to a considerable extent in 1865-67, and their product was unlike that of the Pennsylvania fields. As the latter began to decline the adjacent territory in New York and Ohio was developed, but the Ohio crude required quite different handling from that with which refiners were then familiar. California had already begun to show promise of rich fields, and during the last decade of the century there were rich developments in Texas as well as in other Gulf States and the mid-continent field, Oklahoma being at one time the largest producer and running now a close race with California.

Added to the problem of how to handle the different crude oils to the best advantage has come that of how to meet the changing and unequal demand for the various refined products, the most notable of which has been the increased demand for gasoline for motor fuel. In a paper read by Van H. Manning before the American Petroleum Institute in December, 1921, the author gives some interesting statistics showing how great have been the requirements for this purpose. This outlet became of relative importance about 1904, and in that year the production of gasoline was 10.3 per cent. of the crude refined or 4.33 gallons to 42 gallons of crude. Five years later it had increased to 4.49; in 1914 to 7.43 and in 1919 to 8.69. During that period the crude oil production increased 1.42 and the gasoline 5.04 per cent. The increase in the quantity of oil refined was over 400 per cent., while the straight-run gasoline increased 9.08 per cent. This was accomplished by changed refining processes, chiefly that of Dr. William H. Burton, president of the Standard Oil Co. of Indiana, whose cracking process won for him the Perkin medal by the Society of Chemical Industry, and whose contributions to the chemistry of petroleum industry have been numerous and of the highest value. The process of extracting gasoline from natural gas by compression is another important invention which has been the outgrowth of necessity, and in 1919 afforded nearly 20 per cent. of the entire production of gasoline. The coincident improvement of internal combustion engines has permitted the use of gasoline of low volatility, and but for this the new sources of gasoline would have failed to furnish an entirely satisfactory product.

Important changes have also occurred in the marketing of petroleum products, due to the establishment by refiners of storage tanks and tank wagons at local points, including many towns too small to warrant an independent jobber in providing such facilities for prompt distribution. In some cases the tank wagon is operated by dealers, but with the demand for gasoline from garages along city streets and highways, tank wagons have enabled refiners to effectively supplement the national and local advertising that has become a feature of their business during the last ten years, intended to strengthen the hold of their individual trade-marks upon the consuming public.

Merrimac Chemical Company

Manufacturing Chemists BOSTON, MASS.

EVERETT PLANT

ACIDS

Acetic, Muriatic, Nitric, Oleum, Sulphuric, Battery and "H" Acid

Alum — Sulphate of Alumina — Hydrate of Alumina
Chloride of Alumina — Glauber's Salt — Salt Cake — Nitrate of Iron
Nitrite of Soda — Bisulphite of Soda—Powdered and Liquid
Ammonia—Aqua and Anhydrous — Sulphide of Sodium—Conc. and Crystals
Sulphate of Ammonia — Sodium Hydrosulphite

WORKS, AT EVERETT AND SOUTH WILMINGTON, MASS.

HANS HINRICHS CHEMICAL CORPORATION

FIFTY UNION SQUARE
NEW YORK

Exclusive American Distributors for

C. H. BOEHRINGER SOHN'S FAMOUS

Tartaric Acids, U. S. P.

THE FINEST IN THE MARKET

POWDER – GRANULAR – SMALL and LARGE CRYSTALS

Past and Present Output of Lead Pigments

The per capita consumption of white lead, or paint of any kind for that matter, was not large in the colonial days in America. Had the "Save the Surface" propaganda been launched three centuries earlier, it is probable that the inherent thrift of the first settlers in New England would have overcome their religious scruples concerning the pomps and vanities, and caused them to use it to save their property, even if it jeopardized the safety of their souls. It is recorded that in 1639 the Rev. Thomas Allen, of Charlestown, Mass., was "called to account" for having paint in his house, but he pleaded an alibi and said the paint had been applied by a former owner of the premises, adding that he personally did not approve of paint.

Before the last century was ushered in, however, the Puritan spirit had yielded to the aesthetic, or thrifty, and white lead was used in considerable quantities in the United States, but was all imported from England. About the year 1800 the manufacture of white lead was undertaken in this country by the ancestors of the present house of Wetherill & Bro., and in 1808 its manufacture was begun by the Harrisons of that city. In 1810 the production of white lead and oxide at Philadelphia is stated to have been about 500 tons, the imports at that time amounting to 1,150 tons. It is recorded that the manufacturers petitioned Congress to make pig lead free and increase the duty on pigments, but their petition does not appear to have received favorable consideration.

However, the industry seems to have prospered, and two plants were established at Pittsburgh in 1810, although one of them only lasted a year or two. Another plant was built at Philadelphia in 1810, and there were some quick-process ventures there during the next ten years. The first plant at Cincinnati was opened in 1815, and the first at New York began about 1820 with a quick-process, which it discarded a few years later for the old Dutch method.

Works were established in Massachusetts in 1824 and 1826, and in 1830 eight manufacturers east of the Alleghenies entered into a price agreement of 8 cents for dry white lead and 9 cents in oil, 6 cents for ordinary red lead and 7¼ cents for glass makers' red lead. The terms were 6 months net for amounts of less than $300, 1 per cent. for $300 to $500, 2 per cent. for $500 to $800, and 3 per cent. for $800 or over. This agreement carried a $2,000 forfeit, but this was before the days of anti-price-fixing legislation. In 1837 there were eight factories in the West, but their aggregate production did not exceed 1,000 tons. From 1840 to 1850 there was a rapid development of the industry both East and West, although the individual plants remained small, and the total production in 1860 was estimated at 15,000 tons. In the next ten years, however, it increased considerably under the stimulus of 3 cents a pound duty, and by 1880 the production was estimated at 50,000 tons.

Productive capacity had so far exceeded consumption during the next decade that the "trust" idea, which was becoming popular in overcrowded industries, found lodgment in the brain of a New York corroder who was finding the competition too keen for comfort or profit, and he set himself to the task of bringing the corroders together. He succeeded to the extent of getting a good working majority of them into an organization known as "The Lead Trust," which, after the manner of most similar organizations of that date, was heavily overcapitalized. Although working well industrially, the capitalization was too heavy to permit of its making a satisfactory financial showing, and new interests bought in and made a complete reorganization in 1891 under the name of the National Lead Co., their first step being to cut the capitalization one-half. Further accessions to their plants were made from time to time and the company, under management governed by regard for the interests of the public and the stockholders, rather than those of stock speculators, has found its place among the sound industrial corporations of the country. Its manufacturing capacity has increased and several new plants have been added to the outside interests in the meantime, so that at present the capacity of the country is estimated at fully four times what it was 50 years ago, and the consumption has increased in like ratio.

The years 1920 and 1921 taxed the capacity of most of the lead works, last year showing a volume of business in white lead which has never been equaled.

The competition of other white pigments has been keen in some of the natural outlets. Basic lead sulphate, a white pigment made by sublimation of the ores, first brought out in 1869, and having an average chemical composition of about 78 per cent. lead sulphate, 16 per cent. lead oxide and 6 per cent. zinc oxide, has been largely substituted for carbonate in mixed paint formulas, although the two are generally used in combination. A blue basic sulphate also produced in the same way has displaced the white pigments to a considerable extent in the manufacture of rubber goods, and has also been adopted by builders of steel structures, especially oil tanks, and preservative paint, in place of red lead.

Lithopone is one of the newer pigments for which the last twenty years have developed large consumption, especially in flat paints for inside use. Leaded zincs, made by sublimation from ores containing as high as 25 or 30 per cent. of lead, 65 or 70 per cent. zinc, have also come into use in mixed paints in competition with the pure lead carbonate and pure zinc oxide.

Efforts by competing interests or by welfare workers have been made periodically and more or less energetically to emphasize the dangers to health in the use of white lead, and restrictive legislation has been proposed, but in spite of it all the popularity of the pigment continues, doubtless for the reason that no satisfactory substitute for it in the channels into which it enters principally has ever been found.

While the lead oxides cannot reach such a tonnage as the carbonate has attained, the growth of their production in this country since the industry was first started, has been very large. Their outlet continues to be the larger industries, and at present is for purposes unknown fifty years ago—that is to say, the manufacture of rubber tires and electric storage batteries. The increase in the output over that of 1871 probably is as great in percentage as that in white lead. Methods of manufacture have been changed in respect to the construction of furnaces, but both here and in Europe there are works which show little variation from those of a half century ago. The average quality of the product used today is higher than that of the earlier period, some of the consuming industries being more exacting in their specifications as to the degree of oxidation and the presence of metallic lead and impurities.

The History of Naval Stores

When the first issue of the Reporter appeared in 1871, Savannah and Jacksonville, which now make the prices of turpentine and rosin for the markets of New York and other sections of the north, had not yet attained anything like the commanding positions which they know hold in the naval stores trade of the United States. Wilmington, in the "Old North State," as North Carolina was commonly termed in the earlier days of the industry, had the distinction of being the leading market for naval stores in America and one of the greatest shipping ports in the world, a claim which it held unchallenged for many years prior and subsequent to 1871. Savannah was forging ahead at that period, but it was not until the industry in North Carolina, owing to the destruction of its vast pine forests, was on the wane, that trade in naval stores at the ports of Georgia, South Carolina, Florida, Alabama and other Gulf States began to assume real importance or anything approaching it.

As early as 1800, Wilmington had become one of the world's principal ports for the handling of naval stores. In 1804 more than 75,000 barrels of turpentine alone were shipped from there. Packets were then making regular trips between Wilmington and New York, and the importance of the former as a naval stores port was growing rapidly. Soon after 1850 the quantity of naval stores handled at Wilmington was considerably in excess of half a million barrels annually and about twenty-five years later it amounted to about a million barrels. With the cost of raw material and labor cheap, the prices received by producers of naval stores in the early days of the industry were very profitable. The records of the Wilmington market show some interesting price variations. In the early part of 1846, tar sold at $1.30 and rosin at 85 cents per barrel. In the same year turpentine was recorded at 37 cents per gallon, while two years later it was down to 28 cents. In 1863, turpentine sold as high as $4.50 per gallon. That was during the Civil War, but in 1870, it was down to 35½ cents; in 1872 it had averaged to 57 cents; in 1877 it was back to 37½ cents, and in 1884 to 29½ cents.

The consumption of naval stores in various industries in this country increased rapidly after 1870 and shipments to foreign countries also grew steadily. The effects were noticeable before many years in decreased production in North Carolina as its pine forests began to disappear. The importance of Wilmington as a naval stores shipping port gradually declined. Its receipts of turpentine and rosin fell to 207,284 barrels, in 1900 to 106,178 in 1903 and to 20,736 barrels in 1913. In more recent years the receipts at the port have been so small that statistical records have been discontinued.

With the decline of the industry in North Carolina, the States to the south of it made more rapid progress, and the markets of Georgia and Florida became increasingly important. In 1875 Savannah had attained a position of such importance in the trade that the newspapers commenced to publish the daily receipts of turpentine, rosin, etc., at that port. In an article describing Savannah as a naval stores market from 1875 to 1920, written by Thomas Gamble, editor of the Weekly Naval Stores Review, Savannah, which appeared in "Naval Stores: History Production, Distribution and Consumption," the author says that no other port has ever acquired or can hope to acquire the pre-eminence that Savannah obtained as to receipts forty years ago and easily maintained for thirty-five years, that no other naval stores port likewise can hope to have and to hold the premiership as the market on which the eyes of the world center when naval stores prices are under consideration. For the year 1875-76, the first season in which a record of the receipts was kept, the arrivals at Savannah were 10,348 barrels of turpentine and 53,060 barrels of rosin, a total of 63,048 packages. With the forests of the Carolinas rapidly disappearing, the naval stores industry in Georgia made great strides forward. New railroad lines were built which brought naval stores from the woods to Savannah in ever increasing quantities. In the season of 1882-83 the receipts of naval stores at the port amounted to no less than 697,165 packages.

In the season of 1891-92 the receipts at Savannah amounted to more than 1,100,000 packages, and the day on which the 1,000,000 package record was reached, a flag which bore those figures was hoisted above the building which the Savannah Board of Trade occupied and the event was also celebrated by the opening of bottles of champagne. The industry in Georgia continued to grow and in the season of 1896-97 the receipts at the port amounted to 1,640,495 barrels, having an estimated market value of $10,000,000. That season proved to be the greatest in the history of the port and it is believed that the record will never be exceeded in the future history of this or any other country. The enormous movement to the port of Savannah made necessary the construction of great warehouses, sheds and yards for the storage of these stocks which frequently amounted to from 35,000 to 40,000 barrels of turpentine and 150,000 to 200,000 barrels of rosin. The statistics show that on Aug. 2, 1894, the stock of turpentine reached the high record of 63,255 barrels while on January 18, 1897, the stock of rosin was 281,055 barrels. A decline in the industry in Georgia commenced soon after the record year, for receipts at Savannah in 1896-97, owing to the inroads upon pine forests, and the movement to the port gradually decreased, the arrivals falling in 1904-05 to 793,148 barrels of turpentine and rosin. In 1908-09 the receipts at the port ran up to 1,072,943, after which there was another decline to 233,851 barrels in 1918-19 or the smallest receipts for any season since 1879-80.

A record of turpentine prices at Savannah covering a period of 37 years from 1883-84 to 1919-20 shows that the highest price during that period was $2.30 per gallon in 1919-20 and the lowest, 23 cents, in 1893-94. The Savannah prices are made by the Quotations Committee of the Naval Stores Department of the Savannah Board of Trade. This committee is composed of three factors and three brokers or exporters who hold office for terms ranging from two to six months.

The importance attained by Jacksonville as a naval stores port has been a development of comparatively recent years. The official market is held at 3 p. m. each day when bids are received and quotations established. These prices have for a number of years past been printed in the newspapers. The record season for the port was in 1916-17 when the arrivals were 148,119 barrels of turpentine and 506,389 barrels of rosin, or a total of 654,508 packages. The growth of Jacksonville as a shipping port has been followed by the construction of greatly increased facilities for the handling of naval stores. Many important houses having headquarters in Savannah for many years have established branches in Jacksonville and the harbor has recently been deepened so that large merchant ships engaged in the naval stores trade can now enter the port.

The crest of production having been passed in Florida, as revealed in the decline in the arrivals at the port of Jacksonville, the question of future supplies of naval stores is being discussed with increasing interest. Outside of the industry itself comparatively few people seem to realize the extent to which these products are consumed. New uses are apparently being discovered for both turpentine and rosin which make new sources of supply imperative. The extensive forests of Douglas firs which exist in the Pacific coast States seem to hold out the promise of new and abundant supplies before many years have passed, though it is pointed out that development work in that region will be attended with more serious obstacles than in the case of the old sources of supply. It is hoped that the lesson which has been learned at the South will not be lost on the forests remaining there or in new fields, and that methods of tapping which destroy the life of the trees will no longer be tolerated, nor the saw mill be permitted to follow closely in the wake of the still.

Exports of naval stores from the United States since 1871 have shown an enormous increase. In that year our shipments abroad amounted to only 49,071 barrels of turpentine and 286,697 barrels of rosin, with a combined value of $2,610,159. The record year for exports was in 1901 when 404,817 barrels of turpentine and 1,579,656 barrels of rosin were shipped, the combined value being $12,457,486. Since that year our exports have been smaller, but the value has increased sharply, the value of the shipments of turpentine and rosin in 1919 being close to $31,000,000. The following table shows the exports of turpentine and rosin from the United States since 1871:—

	Barrels		
	Turpentine.	Rosin.	Value.
1871	49,071	286,697	$2,610,159
1872	89,968	387,928	5,778,271
1873	102,293	473,291	6,299,382
1874	135,681	520,431	5,865,364
1875	111,992	526,015	4,698,963
1876	103,578	461,583	3,860,691
1877	135,938	504,034	4,659,017
1878	152,671	583,622	4,662,888
1879	151,517	623,177	4,264,814
1880	141,824	582,593	4,506,334
1881	131,910	573,278	4,944,142
1882	162,730	647,367	7,038,837
1883	197,347	754,463	7,434,361
1884	226,014	865,318	6,794,574
1885	179,744	710,810	4,880,489
1886	164,353	633,674	4,774,868
1887	204,197	764,407	5,791,531
1888	211,718	835,696	5,854,058
1889	193,635	795,322	5,897,947
1890	224,978	896,771	7,353,304
1891	244,872	1,002,541	8,135,339
1892	263,529	1,092,120	7,919,180
1893	268,309	1,153,268	7,226,803
1894	252,368	1,107,752	6,723,141
1895	293,055	1,042,941	7,249,257
1896	348,631	1,216,875	8,765,550
1897	346,656	1,360,300	9,135,714
1898	367,023	1,235,474	9,070,058
1899	355,231	1,435,400	9,842,000
1900	361,811	1,326,706	12,350,280
1901	404,817	1,579,656	12,457,480
1902	383,550	1,420,140	11,633,352
1903	327,575	1,342,639	12,831,520
1904	344,056	1,447,660	16,068,020
1905	317,890	1,293,750	15,971,185
1906	323,650	1,389,510	20,737,240
1907	343,536	1,476,243	22,147,311
1908	388,660	1,456,630	17,962,770
1909	321,237	1,111,336	15,991,378
1910	285,046	1,270,830	22,301,253
1911	363,950	1,352,646	27,245,256
1912	416,227	1,361,554	25,748,580
1913	400,363	1,458,837	21,720,783
1914	222,307	979,160	13,256,733
1915	212,374	774,386	11,411,860
1916	196,872	1,031,712	15,922,308
1917	130,347	836,300	13,728,498
1918	74,343	436,255	9,827,785
1919	213,442	677,892	30,882,204
1920	183,252	1,160,385	34,093,655
*1921	170,895	858,681	9,995,214

*Eleven months.

In the New York market for naval stores a very noticeable feeling of optimism regarding the future has prevailed since the opening of 1922. Some old and experienced members of the trade are firmly of the belief that the outlook was seldom if ever more encouraging. Liquidation has been proceeding steadily for many months in all branches of trade and industry, the widespread inflation growing out of the world war has largely disappeared and the idea of many is that the country is on the threshold of better times, in which the naval stores trade is certain sooner or later to participate.

When There Were No Phones

The Reporter ante-dates the telephone by about four years. It was in 1875 that Alexander Graham Bell, in a Boston attic, made the first telephone—a crude, box-like affair about or much like the desk or wall apparatus of today as a stage coach is like an airplane. A good many years elapsed before the new contrivance came into general use. Now, in this city alone there are nearly a million telephones in operation, more than a hundred central offices being required to serve their users. In cases in which, fifty years ago, men met at "exchanges" to discuss big business deals, they now, in many instances, use the telephone.

As early as January, 1884, the Reporter published its telephone number alongside its street address at the head of its editorial columns.

TARTARIC ACID

GUARANTEED U. S. P.

Crystals - Powder - Granular

Guaranteed to Pass the Requirements of the Department of Agriculture

Payment only after passing

Manufactured by

JOH. A. BENCKISER'S
LABORATORIES
Ludwigshafen-on-Rhein

Sole Agents:

W. BENKERT & CO., Inc.
136 Water St., New York City
Telephone, John 1995

SULPHURIC ACID

Oil Vitriol
Special Battery Acids
Arsenic and Iron Free
Phosphoric Acid, 50%
Nitric and Muriatic Acids

American Acid Company

Works—MEDFORD, MASS.

Office—121 BEVERLY STREET, BOSTON, MASS.

The Manufacture of Bichromates, Then and Now

The published reports of William Glenn, a former superintendent of the Baltimore Chrome Works, Professor M. C. Lamb, F. C. S., and the Mutual Chemical Co. of America, afford an interesting and not unromantic history of the Bichromate industry in the United States.

In the summer of 1827, Isaac Tyson, Jr., saw in the Belaire market at Baltimore, a cart containing a cider barrel held from rolling about by means of some heavy black stones. These stones were chromic iron, and the knowledge necessary to identify them was at that time peculiar, perhaps, to the single American who saw them. He had made a study of them in their first-known American locality, that of the Bare Hills, near his father's residence then six miles north of Baltimore.

These stones which were used to steady the cider barrel had been taken from the surface of a farm in Harford county near Baltimore. Of this farm, Mr. Tyson very promptly obtained possession.

The ore which lay upon the surface was carefully collected and carted to a building which stood beside the Back Basin, on what is now Caroline street, Baltimore, and from there shipped to Liverpool, and finally, to Glasgow, where, together with other chemicals, potassium bichromate was produced.

In 1828, Mr. Tyson saw on another farm, in Lancaster County, Pennsylvania, a group of stones of chromic iron which far exceeded in quantity that which lay upon the surface of his Reed mine. He at once leased the ore-right of the farm, and acquired the fee-simple in 1832. This was called the Wood Mine and became the greatest producer of chrome ore this country has ever known.

The owner of this chromium territory came to believe that he could not indefinitely enjoy his monopoly, and that other regions would be found which were as rich as his own, and that he would not be able to control the whole of them. He felt there would grow up a competition which would depreciate the value of his ores, and restrict the volume of their sale. It was for this reason that he established a factory in 1845 for the consumption of the surplus of his own ores, on land lying on the Back Basin, near his chrome-ore depot in Baltimore.

This factory, which was the first bichromate works in the United States is now one of the important factories of the Mutual Chemical Co. of America. It has been remodeled and enlarged from time to time, and is now modern in all details. It always has been the largest bichromate factory in this country, and for many years the only domestic factory manufacturing bichromates.

In connection with the mention of the Baltimore factory, it is interesting to note the following extract: Page 122 of a quarto volume prepared for the State of Maryland, by "Members of the Johns Hopkins University and Others."

"Among the first steps of Isaac Tyson, Jr., was to apply, in 1846, to Yale College for a chemist for his chrome works. In response, a young man named W. P. Blake, who was then a student in the chemical laboratory, was sent.

"Mr. (now professor) Blake was the first chemist to be employed in technology upon this continent; while the Baltimore chrome works were the first to appreciate the value of chemistry."

This fact has undoubtedly had great influence on the attention which has always been placed on the quality of the products of this works and also the other works of the Mutual Chemical Co. of America.

In the early years of the operation of this factory, only bichromate of potash was manufactured, as it was not until about year 1885 that bichromate of soda was manufactured commercially.

In the year 1895 the Jersey City factory of the company was built for the manufacture of prussiate of potash, but the manufacture of both bichromate of soda and bichromate of potash was begun simultaneously in this factory in the year 1897. Like the Baltimore works the Jersey City plant has been enlarged and rebuilt from time to time to keep pace with the growing demand for the company's products, and it is now modern in all details.

Although the cider barrel on the cart in Baltimore was originally instrumental in starting the bichromate industry in this country by calling attention to the chrome ore deposits near Baltimore, the industry has outgrown the production of these deposits, and has to depend on chrome ores from other parts of the world. For a great many years both the Baltimore factory and the Jersey City factory have supplied the bulk of their chrome ore requirements from the island of New Caledonia, which is approximately 10,000 miles from Baltimore by way of the Panama Canal. The island of New Caledonia is mountainous and the topography the roughest imaginable, as the mountains rise abruptly from the sea and there are few places where the shores give place to low lands suitable for agriculture. Although the island has approximately an area of 6,235 square miles, the total population in 1911 was only about fifty thousand of which about twenty-five per cent. are white people and the balance native Kanakas, Asiatics and convicts. There are no railroads and only a few wagon roads; travel about the island is done by water. The traveling in the interior is either on horseback, or foot, over the native trails or paths. The climate is tropical to sub-tropical and it is usual to have 120 to 200 inches of rain annually at Yate, which is situated on the East Coast, while at Noumea, which is on the West Coast, droughts are not unknown. The hurricane season is December to March, and the storms are known to occur as late as April.

The chrome mines of which the Tiebaghi is the most famous, are situated at elevations of 1,000 to 2,000 feet above the sea, on mountains with very steep slopes. The ores are brought down by aerial cableways and these are usually supplemented by narrow-gauge railways, with locomotives or horses to transport the ore to the seabeach. Here it is accumulated in stock piles ready for loading. The anchorages are usually some distance out and in all cases except at Noumea, the ore is loaded by lighters.

It is from the harbor of Pagoumene situated on the West Coast that the company has secured its principal supply of chrome ore.

During the world war the government decided on a color of khaki and olive drab for the uniform of its soldiers, on account of the low visibility, and this color required the use of enormous quantities of bichromates The soldiers also required special shoes, and this in turn made another large demand for bichromates, as practically all of the upper leathers are tanned by the chrome process. In order to meet the extra demands caused by this emergency, the company increased the capacity of its Baltimore factory, at the same time maintaining its usual high standard of quality and uniformity.

As the principal source of supply of chrome ore is at New Caledonia, it is usually imported in cargo lots of between five and ten thousand tons each. Ships naturally were in great demand during the war and difficult to get. The company, fearing that it would not be able to obtain sufficient chrome ore to meet the demands of the government, purchased a chrome ore deposit in Canada. This ore, while more accessible, was of much lower quality than the New Caledonian ore, and it was, therefore, necessary for the company to build a concentrating plant to convert the low grade ore into the required high-grade material. This mine and concentrating plant were operated during the war, but have since been discontinued.

For many years the Mutual Chemical Co. of America confined itself to the manufacture of bichromate of potash and soda, but during the last few years it built a sulphuric acid factory principally for its own needs. It also manufactures neutral chromate of soda, sulphate of soda, and a product which is known to the trade under the name of "Koreon." The latter consists mainly of basic sulphate of chromium and is used for a one-bath tannage.

During the early years of the bichromate industry, bichromate of potash was the only product manufactured, as it was not until 1885 that bichromate of soda was manufactured commercially. Since the time the Baltimore factory was started many new uses for both bichromate of potash and bichromate of soda have been found, and while the original principal use was in colors, today it is extensively employed in the tanning, color, textile, dyeing and chemical industries.

It was not until about 1884 that the first process of chrome tanning was used successfully on a commercial scale in this country. The method consisted of impregnating the leather with acidified bichromate, and reducing the chromic acid with sulphites. About 1890, the first chrome-tanned kid leather which was produced in Philadelphia was exported from this country, and at a later date, calf leather also manufactured by the chrome process was shipped to Great Britain.

The chocking of a cider barrel with a handy bit of rock, and the accidental discovery of that rock by a wide-awake young man to whom it revealed a vision, nearly one hundred years ago, led to the development of a large and influential factor in the subsequent history of the chemical industry in America. Isaac Tyson, Jr., realized that foreign competition and the prejudices of consumers would strangle his enterprise unless met by products of the highest standard of purity and of a uniformity that could be relied on. He successfully met these requirements and the continued growth of the industry under those who have succeeded him has largely been due to a rigid and persistent adherence to the ideals of its founder.

Features of Half Century in the Drug Trade

A dominant feature of the wholesale drug business during the last 50 years has been the tendency—equally pronounced in other lines of trade—to reduce the number of the classes and numerical ratios of distributors. This has been accomplished partly by the changes in the methods of distribution, referred to more fully in the introductory remarks in this issue, and partly by the consolidation of competing interests, especially in the jobbing class.

The dealer who formerly stood between the importer and jobber, and the broker who served all three classes, have practically been eliminated. While the pharmaceutical manufacturer is a more important factor than formerly, he appears in an entirely different role from that of the old-time dealer, and he has also, to some extent, supplanted the jobber as a connecting link between the importer of crude drugs and the apothecary. He cannot, therefore, be regarded as an additional link in the chain of distributors, for he combines functions which have served to bring the producer and ultimate consumer of drugs closer together than they were a half-century ago. It is not probable that this closer relatonship is apparent in any comparison in the cost of a prescription today with that of fifty years ago, but drugs are mostly dispensed in a form quite different from that of the earlier period, and one which the apothecary would have found it impossible to accomplish, and the change has, in the main, been one of both economy and efficiency.

The further reduction in the proportion of middle-men has been effected through the consolidation and elimination of jobbing houses all over the country. Although many new concerns have sprung up as the centers of distribution have changed, there has been a marked reduction in the number in the old centers, and their business has become more centralized. This has, of necessity, followed the demand from retailers for sources of supply from which he could obtain prompt service.

While each branch of the drug trade has made noteworthy progress in the past fifty years, much of it must be attributed to laboratory investigations, discoveries, achievements and improvements. In fine chemicals, the leading discovery of commercial importance was that of coal tar medicinals. While work in coal tar had been a principal feature in the German chemical laboratories, it was not until about 15 years after the Reporter was born that medicinals from this source were understood and an attempt made to produce them in commercial quantities. Acetanilid was discovered in 1852, but did not become of commercial importance until in the '80s. Acetphenetidin originated in 1887, but was not featured in drug reports until nearly ten years later. Salol was produced in German laboratories in 1883.

The development of the botanicals has been largely on the initiative of the pharmaceutical manufacturers These concerns were of very modest proportions in 1871, but they held close at heart a vision of usefulness which turned them into adventures and pioneers in the discovery and scientific use and preparation of medicinal botanicals. In this capacity, they turned their resources, financial and scientific, toward discovery of new species of crude drugs, their theraputic value, the isolation of their essential principles, and finally to their standardization. They ranged the world in private expeditions that tapped the South Seas, South America and Europe; no outpost of civilization was too remote or inaccessible for them to penetrate in the interests of science, especially medicine.

The herbalist is probably one of the most ancient of occupations. Around botanicals there grew up, through the ages, something akin to folklore, and history abounds in occasions showing their use as curatives, according to the crude, unscientific knowledge held at the dawn of history. When the Reporter began its activity, the pharmaceutical houses were making their laboratory researches in an effort to standardize crude drugs and place them on a basis of scientific accuracy and uniformity.

It was in 1879 that the first standardized extract was given to pharmacy. Standardization first proceeded along the line of least resistance. It concerned itself with those powerful drugs susceptible to chemical analysis to determine their alkaloidal contents. Nux vomica, cinchona bark, belladonna root and leaves, henbane and stramonium leaves, gelsemium and ipecac roots were the materials for pioneer study and achievement.

By 1883, the successfully standardized preparations had grown to twenty in number and the success achieved turned the investigators toward physiological assay and standardization. In 1897, the first commercial offerings of products so standardized were made and included: ergot, Indian cannabis, strophanthus, digitalis, and convallaria. So successful was this work that physiological assay became almost an exact science.

Chemical standardization on the other hand presented many difficulties and limitations, but in the early days meritorious work was done in ergot, digitalis, convallaria, strophanthus and cannabis indica. These pioneer endeavors by pharmaceutical concerns has come rapidly to the fore within the past decade and at the present time, nearly all the important crude drugs have been standardized physiologically, many of them chemically, and the alkaloidal content determined.

It was through the adventuring of the pioneering manufactures in the crude drug industry that progress was made. When the Reporter first went to the trade, jaborandi leaves, grindelia robusta herb, Jamaica dogwood bark, saw palmetto berries, pichi tops, kamala, areca nuts, seneca, snake, ginseng and mandrake roots, and Spanish saffron were prominent crude drugs in regular trade. There were others, of course, but these assumed importance.

Knowledge of medicinal plants, and hence increase in the number of items in New York drug commerce, was materially aided by the expeditions above referred to.

In 1885, one of the earliest ventures of this kind from the United States was made. Under leadership of Dr. Henry H. Rusby, and sent out by a large pharmaceutical house, an expedition set out for South America to investigate botanical drugs and to purchase large supplies of erythroxylon coca. This plant was introduced into the United States in the early '70s and a number of years prior to the discovery of the anaesthetic property of cocaine alkaloid by Kohler in Germany.

This spirit of adventure in the name of science has been kept intact to the present day. The same Dr. Rusby just mentioned, has lately been in South America on a similar errand. He became dangerously ill and courageously left the expedition, and virtually alone treked 1,500 miles through the jungle to reach the coast in order that the company of scientists might not be hampered in its work by a sick man.

Another early expedition—possibly prior to that of 1885 noted above—was that headed by Count Hansen, who was sent by an American house to the Fiji Islands to secure tonga bark and to arrange for a steady supply to be shipped to the United States.

The growth of the crude drug business is indicated by the statistics available on drug grinding. In 1880 no figures were kept, but in 1890 the total value of grinding production was placed at $436,000. By 1910, this value had grown to $6,000,000. In essential oils, domestic production was valued at $631,000 in 1869 and at $1,737,000 in 1910.

Definite figures are not available for 1920 as the government is still compiling the statistics. But it is safe to assert that the ratio of expansion in the drug market, as shown in the above figures, has been not only maintained but unquestionably has been exceeded in the ten years from 1910 to 1920.

Coincident with the expansion of these branches of the drug trade, was the growth of the fine chemical industry in the United States. In 1880, the domestic production of fine chemicals was valued at $1,000,000, while in 1910, this value had inceased to about $29,000,000.

During the fifty years the items in the drug market became rather well defined within two groups—the speculative and the more or less steady. Even in the very early years, the speculative group included opium and its derivatives, quinine and camphor. From time to time this group was expanded or contracted, but these materials remained its backbone. At present, quinine, menthol and camphor remain active among speculative interests, but the narcotics have been eliminated.

While wild speculation followed the breaking out of the war, and continued until well after the armistice had put an end to hostilities, the tendency of prices on all drugs, as shown by the tables of highest and lowest by ten-year periods since 1871, which appear in the following pages, has not been in any one direction. Quinine is perhaps as strking an example of declining values, due to the increased cultivation and larger yield of bark, as is shown by any drug, but it has fluctuated in common wth others, and especially during the last four years has felt the effect of the war which so largely disturbed values throughout the drug list. Prior to that period the fluctuations in values on all drugs were without any controlling tendency, but were the result of varying conditions of supply and

MERCK & CO.

NEW YORK

St. Louis Montreal

MEDICINAL ANALYTICAL

Chemicals

PHOTOGRAPHIC TECHNICAL

Established 1815

Arnold, Hoffman & Co., Inc.

PROVIDENCE, R. I.
BOSTON, MASS.
NEW YORK, N. Y.
PHILADELPHIA, PA.
CHARLOTTE, N. C.

Importers and Manufacturers of Specialties for

Sizing, Softening and Finishing all Textile Fabrics

Sole Agents for

BELLE ALKALI CO. of Belle, W. Va.

Manufacturers of { LIQUID CHLORINE
CAUSTIC SODA, Solid and Flaked
BLEACHING POWDER

demand, and the influence of the alkaloidal preparations and the synthetic drugs, both of which are the development of the half-century, and chiefly of the last three decades. The price of quinine in 1870 was $2.50 per ounce. The fluctuations from that time until the removal of the duty in 1885 were not wide, but the tendency was downward, and in 1911 the lowest point, 14c. per ounce, was reached. During the war, and since it closed, 70c. has been the top price, and this was reached in 1920.

Opium has always been a speculative article, and its fluctuations have been due chiefly to the relations of supply and demand, but with occasional speculative manipulations which have set national laws at defiance. The latter have always won out in the end, however, and there are many grades of speculators, ranging from bankers to apothecaries, who have ventured into opium to their everlasting sorrow. When the United States became responsible for the Phillipine Islands, at the conclusion of the Spanish-American war, the government soon was aware that something would have to be done about the narcotic evil in its new possesion. Further knowledge revealed the ramifications of this problem througout the Far East and eventually led to a gathering of the nations at Shanghai in 1909 to formulate plans for combating the traffic.

Little of immediate effect was done at Shanghai. A series of resolutions were passed, the burden of which was to urge the nations to pass laws to control the evil. This conference resulted in a meeting at the Hague in July, 1913 when the International Opium Congress met to achieve something definite in the way of international action.

The delegates were official representatives of their respective nations and the meeting produced a convention definitely committing the countries in conference to enactment of control legislation, this convention to become effective when confirmed by the various governments.

Confirmation was interrupted by the world war, but the Treaty of Versailles contained a clause which effectively committed the signatory nations to the needed reform legislation and regulations.

On February 9, 1909, the Congress of the United States passed an act to prohibit the importation and use of opium for other than medicinal purposes. This was but the first step. The Harrison Act passed January 17, 1914, was by far the most important and effective legislation ever enacted in the field of narcotic control as it made convictions possible by making narcotic ocntrol a revenue matter through a system of revenue charges. Subsequently this act was amended several times; in each instance control of the traffic was strengthened.

Such in brief is the history of narcotic control by Federal legislation. It was supplemented by many State laws. Now comes the action which removed narcotics entirely from the speculative class. Early in 1920, the Treasury Department issued narcotic regulation which prohibited all exportation of narcotics after February 19, 1920, except under specific conditions and regulations This order was suspended on petition of the narcotic interests, but went into full effect on May 1, 1920. The ban on export sounded the end of all speculation as the regulations surrounding the exportation were so tight and so difficult of evasion that speculative possibilities were eliminated The history of international narcotic control is one of the leading chapters of achievement in drugs during the past fifty years. The stringent governmental regulations put an end to open speculation in opium, and at the same time sent the price in all the markets of the world so high as to rob the gum of any commercial attractiveness it previously had. In 1871 the price was $4 per pound, in 1891 it was $1.80, and in 1918 it reached $30. Subsequent prices have been on a more reasonable line, but it still is on a basis that restricts traffic as effectively as the law does. The alkaloids have followed closely fluctuations in the gum.

Glycerine has had an interesting course since 1871. At that time it was quoted at 80c. for C. P. In 1901 it was 11½c. The utilization of soap liquors as a source of crude glycerine, which began in the 80's and had its great development in the next ten years, was largely responsible for the decline, as the production at times became excessive.

Until the war period fluctuations in crude drugs were without any unvarying tendency, and were chiefly the result of changing conditions in the world's markets. As soon as the war started, conditions of gathering, transporting and marketing, as well as of demand, were completely upset and prices were obtained which had no relaton to actual values. On many lines of natural drugs they are still altogether abnormal, though the tendency on most of them is toward deflation.

Our comparative prices given elsewhere are an interesting study, both as to the fluctuations and the extended list of alkaloidal and synthetic drugs which were unknown a half-century ago.

Comprehensive Statistics of Lead and Zinc Production

The mine and smelter output of lead in the United States in 1921 each fell off about 20 per cent. and the mine and smelter output of zinc each declined nearly 60 per cent., according to a statement by C. E. Siebenthal and A. Stoll, of the United States Geological Survey, Department of the Interior, compiled from reports and estimates by producers and others.

The output of soft lead by mines of the Mississippi Valley was about 231,000 short tons, and that of argentiferous lead by mines of the Western States was about 170,000 tons, a total of 401,000 tons. The corresponding figures for 1920 are 251,816 tons from the Mississippi Valley (including the small output of the Eastern States) and 259,070 tons from the Western States, a total of 512,865 tons. Southeastern Missouri made the largest output and was the only district to make a gain. Its output was 178,000 tons, as compared with 161,258 tons in 1920. The Coeur d'Alene district of Idaho came next, with about 96,000 tons as against 118,105 tons in 1920. Utah made an output of about 45,000 tons, a decrease from 70,419 tons in 1920. The imports of lead in ore were about 7,000 tons, furnished chiefly by Canada, Mexico, and South America and those of lead in buillon were about 41,000 tons, almost wholly from Mexico, as compared with a total of 62,796 tone in 1920. The lead content of lead ore in bonded warehouses on November 30 was 7,648 tons and of base bullion 16,207 tons, as against 16,462 and 34,758 tons, respectively, in 1920. Part of this lead, however, may have been smelted or refined but not shipped and thus may be included in smelter stocks.

The recoverable zinc content of ore mined in 1920 was about 250,000 tons, as compared with 584,772 tons in 1920 and 549,242 tons in 1919. The output of the Eastern States was about 68,000 tons, that of the Central States about 168,000 tons, and that of the Western States about 14,000 tons, as compared with 102,242,337,652, and 144,878 tons, respectively, in 1920. The loss in output of the Eastern States was one-third, that of the Central States one-half, and that of the Western States over nine-tenths. The Upper Mississippi Valley region is credited with an output of about 4,000 tons and the Joplin district with an output of about 164,000 tons. Oklahoma made the largest output, about 116,000 tons, twice as large as that of any other State. In 1921 Montana (the Butte district almost wholly) apparently produced about 11,000 tons, as compared with 91,906 tons in that district in 1920.

The imports of zinc in ore decreased from 22,487 tons in 1920 to about 2,700 tons in 1921, most of which was imported from Mexico. The zinc content of zinc ore in bonded warehouses on November 30 was 14,292 tons, as compared with 25,650 tons at the end of 1920. Some of this ore may have been smelted but not shipped and thus may be included in smelter stocks.

Early in January zinc concentrates containing 60 per cent. of zinc were selling in the Joplin district at $28 a ton, having dropped from $60 a ton at the beginning of 1920. Late in August it reached bottom at $20 a ton. Through the last quarter of the year there was a considerable improvement in price and at the end of the year concentrates were selling at $28 to $30 a ton.

Pigments made in 1920 contained 110,695 tons of zinc, and the output of pigments in 1921 was probably not greatly below that of 1920. Apparently smelter stocks of concentrates were depleted in 1921.

The output of primary domestic desilverized lead in 1921 was about 190,000 short tons, of soft lead about 145,000 tons, and of desilverized soft lead about 55,000 tons, making a total output from domestic ores of about 390,000 tons of refined lead, as compared with 476,849 tons in 1920, which was made up of 220,327 tons of desilverized lead, 189,854 tons of soft lead, and 66,668 tons of desilverized soft lead. The output of lead smelted and refined from foreign ore and bullion was about 50,000 tons, as compared with 52,808 tons in 1920. The total lead smelted or refined in the United States was thus about 440,000 tons, as compared with 529,657 tons in 1920. The output of antimonial lead was about 8,000 tons, as against 12,535 tons in 1920. The exports of lead of foreign origin were about 33,000 tons and of lead of domestic origin about 700, as compared with 23,538 tons and 2,730 tons, respectively, in 1920, an increase of about 7,000 tons in the total exports. The imports of refined pig lead, which for the years 1916 to 1919 inclusive has been a little over 5,000 tons a year and which had jumped in 1920 to 35,719 tons, maintained that high level in 1921, being about 32,000 tons. These heavy importations were the result of the relations of the New York and European prices and the rates of exchange.

The average quoted price of lead for prompt delivery at New York for the year was a little under 4.7 cents a pound, as compared with an average selling price of 8 cents in 1920. At the beginning of 1921 the price was 4.69 cents, but it rose to 5.375 cents in the last half of January, and then by the first of March had dropped to 4 cents flat. A recovery to 5.3 cents took place early in May, after which the price came down to 4.4 cents in the latter part of June. After holding for July and August at about 4.5 cents, the price gained two-tenths of a cent by September, holding at about 4.75 cents until the close of the year.

The output of primary metallic zinc from domestic ores in 1921 was about 194,000 tons and from foreign ores about 2,500 tons, a total of 196,500 tons, as compared with 450,045 tons from domestic ores and 13,332 tons from foreign ores, a total of 463,377 tons in 1920. In addition to primary zinc, there was an output of about 17,000 tons of redistilled secondary zinc, as compared with 21,371 tons in 1920, making a total supply of distilled zinc and electrolytic zinc in 1921 of 213,500 tons, of which 31,500 tons were high grade and intermediate, 32,000 tons select and brass special and 150,000 tons prime Western. The output of the corresponding grades in 1920 was 114,606, 59,811 and 310,331 tons, respectively, a total of 484,748 tons. Of the total output of primary zinc in 1921, about 48,000 tons were made in Illinois, as against 109,056 tons in 1920; 40,000 tons in Oklahoma, as against 110,500 tons, and 36,000 tons in Pennsylvania, as against 74,234 tons.

The average quoted price for prime Western zinc for immediate delivery at St. Louis in 1921 was nearly 4.7 cents per pound, as compared with an average selling price for all grades of 8.1 cents in 1920. The price began the year at 5.6 cents, but had declined nearly to 4.6 cents by the midde of April. After a slight recovery the decline continued until 4.25 cents was reached at the midyear, remaining practically stationary for three months. The price rose through the last quarter of the year and closed at about 4.7 cents. From the middle of May until the last of October the average weekly quotation for prime Western zinc was lower than that for lead.

Introduction of Kerosene by No Means an Easy Matter

From some early-day memoranda made by Col. Bradley, it would appear that our Canadian neighbors through their Trinity House Board, which has charge of the lighthouses in the Provinces, adopted 300-fire-test burning oil as an illuminator in their lighthouse about 1874, but it was not until 1881 that the United States Lighthouse Department substituted mineral oil for animal oils for illuminating purposes in the lighthouses of this country.

The word "kerosene," derived from the Greek, "keros" (wax), was originated about 1857 by Mr. Gessner, chemist of the New York Kerosene Oil Co., says Col. Bradley, and licensed to the Downer Kerosene Oil Co., had by this time become the general term by which most of the petroleum products were known the world over and at once gave the impression that all petroleum products were of comparatively low fire test and therefore more or less dangerous. For instance, upon calling on the agent of the Wamsutta Mills in the whaling city of New Bedford, Mass., Col. Bradley, after explaining the great advantage the new hydrocarbon spindle oil would be in freedom from gumming and cost over the best sperm oil, was flatly told that it was impertinent for him to come to a city like New Bedford and talk such nonsense, for so long as there was a barrel of sperm oil produced, not a single gallon of "blue ruin" would ever be used in the Wamsutta Mills. Today not a single gallon of sperm oil is used on the spindles of the many splendid cotton mills in the "Whale City," or, in fact, on the spindles of any textile establishments throughout the world.

In the introduction of the "mineral sperm" 300-fire-test burning oil to the railroads, passenger steamships and domestic trade, heartbreaking difficulties had to be overcome, but the awarding of the Gold Medal of the American Institute of New York to the new petroleum products of the Downer Co. in the early seventies, after the careful judgment of a most critical committee, paved the way to a more rapid introduction of the new illuminator.

About this time many so-called "safety" lamps were being used, especially in the smaller cotton and woolen mills of New England, but this rather encouraged the use of a cheap low-fire-test burning oil, and to overcome this Col. Bradley invented and placed on the market the factory "security" lamp, which, with the "mineral sperm" 300-fire-test oil, immediately met approval and remained in general use in manufacturing concerns until the introduction of electricity.

Failure Record of Half a Century

The following statistics of business mortalities during the years 1871 to 1921, inclusive, furnish an interesting index to prosperity:

Year.	No. of failures.	Aggregate liabilities.
1871	2,915	$85,252,000
1872	4,069	121,056,000
1873	5,183	228,499,000
1874	5,830	155,239,000
1875	7,740	201,060,333
1876	9,092	191,117,786
1877	8,872	190,669,936
1978	10,478	234,383,132
1879	1,658	98,149,053
1880	4,735	95,352,000
1881	5,582	81,155,932
1882	6,738	101,547,564
1883	9,184	172,874,172
1884	10,968	226,343,427
1885	10,637	134,220,321
1886	9,834	114,644,119
1887	9,634	167,560,944
1888	10,679	123,829,973
1889	10,882	148,784,337
1890	10,907	189,856,964
1891	12,273	189,868,638
1892	10,344	114,044,167
1893	15,242	346,779,889
1894	13,885	172,992,856
1895	13,197	173,196,060
1896	15,088	226,096,134
1897	13,351	154,332,671
1898	12,186	130,642,899
1899	9,337	90,879,889
1900	10,774	138,495,673
1901	11,002	113,602,376
1902	11,615	117,476,769
1903	12,069	155,444,185
1904	12,199	144,202,311
1905	11,520	102,676,172
1906	10,682	119,201,515
1907	11,725	197,385,225
1908	15,690	222,315,684
1909	12,924	154,603,465
1910	12,652	201,757,097
1911	13,441	191,031,665
1912	15,452	203,117,391
1913	16,037	272,672,288
1914	18,280	357,908,859
1915	22,156	302,286,148
1916	16,993	196,212,256
1917	13,855	182,441,371
1918	9,982	163,019,979
1919	6,451	113,291,287
1920	8,881	295,121,805
1921	19,652	627,401,883

The proportion of failures to number of firms in business was least in 1919, being 0.38 per cent. The greatest proportion was in 1878, when the percentage was 1.55.

In trades with which the Oil, Paint and Drug Reporter is concerned the failure record for manufacturers and dealers during the five years ended 1921 was as follows:

Oils

Year.	No. of failures.	Aggregate liabilities.
1917	12	$618,800
1918	13	161,000
1919	13	773,800
1920	15	647,867
1921	6	379,600

Paints

Year.	No. of failures.	Aggregate liabilities.
1917	51	$260,540
1918	32	168,933
1919	12	117,471
1920	12	101,760
1921	57	1,121,917

Drugs

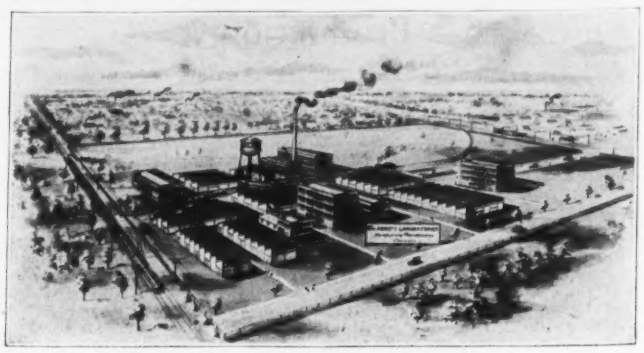
Year.	No. of failures.	Aggregate liabilities.
1917	362	$2,182,625
1918	280	2,243,305
1919	125	726,166
1920	111	1,526,556
1921	388	4,741,814

Chemicals

Year.	No. of failures.	Aggregate liabilities.
1917	27	$673,578
1918	18	463,300
1919	24	857,367
1920	20	612,846
1921	40	1,271,869

How the Postal Service Has Grown

The number of postoffices in the United States in 1871 was 30,045, and the compensation of postmasters amounted to $5,028,381. By 1901, which was the peak year for postmasters, the number had increased to 76,945 with compensation amounting to $19,949,515, but the consolidation of offices and establishment of free delivery routes had reduced the number of offices to 52,168 in 1921. Did their compensation show a corresponding shrinkage. It did not! On the contrary, it amounted to $42,681,434. The gross receipts increased from $20,037,045 in 1871 to $463,491,274 in 1921, and the expenses from $24,390,104 to $620,993,673. In 1871 there were 439,126,175 ordinary stamps sold and in 1921, 13,869,934,907. During the half century men have come and men have gone while agitating the "one-cent letter postage," but we go right along licking the old two center as we have been for a good part of the fifty years, except when we took a rest during the war and stuck on a three.



FINE MEDICINAL CHEMICALS

Synthetics and Active Principles

Anesthesin	Chlorcosane	Hydrastine	Podophyllin U. S. P.
Arbutin	Cinchophen	Lecithin	Procaine
Avenin	Neocinchophen	Lobeline Sulphate	Pyruvic Acid
Barbital	Colchicine U. S. P.	Malonic Ester	Diethylmalonic Ester
Cholestrin	Dichloramine-T	P.-Nitrobenzoic Acid	Sanguinarine Nitrate
Chloramine-T	Diethylamine	Nucleinic Acid	

Extracts and Concentrations

Prices on Request

THE ABBOTT LABORATORIES

Manufacturing Pharmaceutical Chemists

Home Office and Laboratories, Dept. 135 CHICAGO, ILLINOIS

CHEMICALS DRUGS

LABORATORY APPARATUS

1851

This Trade Mark Your — EIMER & AMEND NEW YORK — *Guarantee of Satisfaction*

1922

When the first copy of the "Oil, Paint and Drug Reporter" appeared fifty years ago—Eimer & Amend had already established itself in the American chemical world as "the house of quality, service and progress."

By consistent uninterrupted adherence to the same ideals during the last half century this reputation has been maintained, extended and justified.

EIMER & AMEND

Third Ave., 18th to 19th Street
New York, N. Y.

Pittsburgh Office
4048 Jenkins Arcade

Washington, D. C., Display Room
Suite 601, Evening Star Bldg.

Developing an American Dyestuffs Industry

WILLIAM R. CORWINE, Secretary American Dyes Institute

The great industrial importance of Perkin's accidental discovery of a coal tar dye in 1856 has been fittingly recognized elsewhere in this paper, but its ultimate effect upon American industrial development is worthy of more extended consideration. The basis of the coal tar dyes is the crude oils derived from the tar produced by the distillation of coal or recovered as a by-product in the conversion of coal into coke. Under the old method of making coke, by treating coal in what was known as the "Bee Hive" oven, the coal tar and other valuable by-products were wasted, the value of this waste amounting approximately to $1,000,000,000 yearly. When the "By-Product" oven, now in use, was perfected, the waste was reduced to a minimum. Germany from the very time of Perkin's discovery had studied to save and utilize this waste as a source of crude material for its dye industry, but we lacked either the foresight or the incentive to turn it into a valuable material asset.

From the coal tar there are produced ten heavy oils known to the dye manufacturer as "crudes." The ten crudes are fundamental material for making dyes. They are converted into some three hundred products known as "intermediates," from which are isolated by chemical processes about nine hundred dyes that are further developed into thousands of colors and blends. Although this country had coal and from it made coke, yet even after there was a separation of the crude tar oils, no intermediates were produced here. The limited demand for intermediates to supply the requirements of the few dyestuff manufacturers here was met by importations from Germany.

Up to the time of the outbreak of the European war in 1914, there had been little incentive in this country to the development of the industry of extracting dyestuffs and medicinal drugs from coal. In the year 1866 a firm at Albany, N. Y., had begun the manufacture of these products on a small scale, but at the time when this plant began working the entire idea of coal tar dyes and medicinals was so novel that there was considerable difficulty in marketing the small output of the company, and consequently the production remained always limited. It was not until 1880 that any further activity along the lines of distillation of coal and the securing of valuable by-products from the process took place. In that year the matter of the manufacture of those materials in this country was brought to the attention of Congress by the consumers of aniline dyes. Such colors of this class as were then in use were imported from either England, France or Germany, and, having no domestic competition, importers charged exorbitant prices. The result of this agitation was the enactment of a tariff schedule placing high duties on all finished products of coal distillation, but allowing free entry to such important and necessary crudes and intermediates as coal tar, benzol and anthracene.

As a result of this action on the part of Congress, the industry received remarkable stimulation, and during the following three years there sprang up no less than ten plants of various sizes for the manufacture of coal tar dyes. In 1883, however, some of the consumers who had been anxious enough to aid in the inception of the industry began to look with longing eyes at some of the desirable colors that were offered to the European trade and were not manufactured in America. Accordingly they began an agitation to have the tariff ban, under which the manufacture of coal tar colors had sprung up and was having satisfactory progress, removed. The desired result was achieved and in that year the adequate duties which had prevailed were removed, and immediately the influx of foreign products began on an extensive scale. The factories of England and Germany, which had been on a paying basis before the beginning of the industry in this country, were able to sell at lower figures than could possibly be quoted by the American producers, and as a result American products were speedily replaced by those of foreign make. The inevitable result of the unfair competition was to drive domestic producers out of their own markets. Several of the ten firms were forced out of business altogether. Others turned their efforts into other channels.

At the outbreak of the World War there were only seven dye factories in the United States, and the colors which were made were developed from German intermediates. Efforts had been made at various times to establish a manufacture of dyestuffs here on a large scale, but the influence which the German dye manufacturers exerted through their agents in this country, assisted largely by some consumers in our own country, was sufficient to render futile all attempts to procure a protective tariff that would make possible the establishment of a dyestuff industry in the United States. Germany dominated the situation here, and strengthened her control by selling methods which effectively strangled any effort to introduce competing goods of American manufacture.

Except in certain limited circles, little was known of these methods until the United States entered the war. Through the activities of the Alien Property Custodian they were disclosed, and the proof, which was overwhelming, was made known in the reports of that official, much of it being introduced into the evidence before the Ways and Means Committee of the House of Representatives and the Finance Committee of the United States Senate. The mass of facts bearing upon this subject were published in the reports of the hearings before those two committees when the pending dyestuff legislation was under consideration in the last Congress.

The intermediates produce

(a) the elements from which high explosive and toxic gases are made;

(b) preventive, ameliorating and curative medicinals;

(c) colors;

(d) chemical factors used in synthetic perfumes and in the development of fine organic chemistry, and other products too numerous to mention here.

The last Census of Manufactures, published several years ago, showed that in the United States directly dependent on dyestuffs there were over 11,000 establishments employing more than 1,000,000 workmen with an annual output of over $2,500,000,000, while indirectly dependent on dyestuffs there were more than 56,000 establishments employing more than 1,000,000 workpeople with an annual output exceeding $3,000,000,000, the two together making a total of over 67,000 establishments employing upward of 2,000,000 workmen producing annually more than $5,500,000,000 worth of products. The figures thus given refer principally to the colorization scheme of modern life and do not include the number of establishments, workmen and output of manufacturers of explosives, gases, synthetic medicinals or fine chemicals.

The research work necessary to the new industry not only brought out new colors and blends, but led to the discovery that from the intermediates other valuable products could be made. By degrees, after painstaking research work conducted constantly by hundreds of chemists in dye factories in Germany, these new products came into existence.

The last important discovery before the war was poison gases. From them and the work inspired by them came the tremendous development of chemical warfare. The war started in 1914 as one waged by explosives, but it ended in 1918 as 50 per cent. chemical.

The British blockade of Germany cut off the exports from the latter. Stocks of German dyes in the United States were drawn upon and absorbed, while prices went sky high. There were no American stocks of dyes and none was available anywhere. All dye consuming nations were searched and finally there was a veritable dye panic.

In 1916 several chemical manufacturers turned their attention to the making of dyes while the few already engaged in dye manufacture expanded their plants. Although scarcely an intermediate was made here, yet within a year American manufacturers developed 134 intermediates and the dyestuff industry obtained a start. War demands were of course very heavy, but notwithstanding them domestic requirements were met so far as possible by domestic manufacturers. For the first time in the history of the country the various and intricate chemical processes from the raw material to the finished products were worked out on American soil by American chemists and manufacturers for American consumers, while at the same time those manufacturers helped the government and extended substantial aid to the Allies.

By 1918, 176 intermediates were made on a commercial scale, 23 others being in process for research and experimental purposes. More than 300 different dyes were made in 1918, nearly all of them, of course, being new so far as American production was concerned. In some of the dyes which had been made in 1917 there was a substantial increase in output.

In 1919, 76 intermediates not made in 1918 were developed here, although there was a decline from the volume of production in certain lines which had been extensively used by the government for war purposes. The output of dyes continued to increase, covering a far wider range of colors.

By 1920, 236 intermediates were made, 70 of these having been produced for the first time in that year. More than 360 dyes were made, representing an increase of about 40 per cent. over 1919.

From the inception of the industry in the United States there has been prejudice against American colors on the ground that they were not so fast or reliable as the German. In rare instances that has been true. The chief difficulty was to secure delicate intermediates for the production of these rarer colors. They were never produced in America prior to the war owing to the small number of users. The prejudice and ungoverned competition of foreign products was such that at the outbreak of the war, out of a list of 900 colors and dyes used by the American trade, only 100 were actually made in the country, and none of those in sufficient quantity to take care of consumption needs. In 1913 dye production in the United States was less than 15 per cent. of the requirements of the consuming trade.

In spite of the absence of protection, the dye industry of the United States progressed rapidly under the demand which the war brought on, and in October, 1915, there were 28 firms manufacturing, as against five in August, 1914. The 1916 tariff bill greatly encouraged the manufacturers. Many of the then existing producers made plans for the extension of their efforts and new firms sprang up on every side. At the end of 1916 there were 120 firms engaged in the manufacture of these products, an increase of nearly 100 within two years. The production in a like period had increased from 800 tons in 1913 to 25,000 tons in 1916.

The business continued to expand steadily until nearly 900 colors necessary to the textile and leather trades were produced in this country. Vat colors have been produced satisfactorily, and new colors are being constantly added to the list. During 1921, the post-war depression being at its worst, there was little effort to increase output. The failure of Congress also to act definitely on the tariff bill which would give adequate protection to the trade was another disturbing element, and prevented much legitimate expansion of output. It has been frankly stated that the domestic industry cannot hold its own in competition with Germany.

The development of the industry under the stimulus of the extraordinary demand created by the war and the protection afforded by the closing of all foreign sources of supply, has shown the ability of the United States to produce synthetic dyes and all other coal tar derivatives on a scale and of an excellence which if maintained would place us in a position of entire independence of Germany. But that country is not going to abandon without a struggle the rich harvest it has hitherto reaped from the sale of its coal tar products in America, and the erection of an effective barrier around this lusty infant American industry, whether it be in the form of a tariff, or an embargo, or both, will be the only means of saving what has already been accomplished, and insuring the progress which will be necessary to meet the competition of the ever resourceful and persistent German research laboratories.

Canada's Progress in Industrial Chemistry

S. J. COOK, Chief of the Mining, Metallurgical and Chemical Branch, Dominion Bureau of Statistics, Ottawa, Canada

Looking backward over the history of industrial chemical progress in Canada to the year 1880-81, when the census records show for the first time the detail of industrial establishments, one finds the value of the annual production by the group of industries classed as chemical establishments amounted to about $44,000,000. By 1919 the production had grown to more than $355,000,000 in value. It is an interesting fact that the number of industries declined from 1,758 in 1880-81 to only 697 in 1919, although the invested capital grew from $26,000,000 to $325,000,000. The number of employees more than doubled and the payments in wages rose from $4,000,000 to nearly $30,000,000. Closely following production the trend in imports and exports of chemicals and allied products showed a gradual but steady increase in value, particularly during the past twenty years. The earliest figures presently available are those for 1895, when a total of $3,469,200 worth was imported, made up of $1,174,408 from the United Kingdom, $1,614,921 from the United States and $679,871 from all other countries. The first figures now available for exports of chemicals and allied products date back to 1892, when a total of $760,800 was reached. Of this, nearly $600,000 worth went to the United Kingdom and about $100,000 worth to the United States.

Tables have been prepared showing the values of these imports by countries of origin and of the exports by countries of destination for the first year for which data are available down to date.

Table 1

Imports Into Canada, Chemical and Allied Products, During the Fiscal Years Ending March 31, 1895-1921

Fiscal years.	United Kingdom.	United States.	Other countries.	Total imports.
1895...	$1,174,408	$1,614,921	$679,871	$3,469,200
1896...	1,276 645	1,761,582	802,579	3,840,806
1897...	1,205,029	1,853,837	745,691	3,804,557
1898...	1,311,441	2,199,559	995,061	4,506,061
1899...	1,479,598	2,450,280	1,046,541	4,976,419
1900...	1,743,473	2,674,519	1,007,355	5,425,347
1901...	1,770,468	2,927,679	994,417	5,692,564
1902...	1,601,971	3,373,581	1,268,421	6,243,973
1903...	1,849,785	3,757,950	1,376,794	6,984,529
1904...	1,828,884	3,830,826	1,443,799	7,103,509
1905...	1,988,784	4,106,188	1,467,730	7,562,702
1906...	2,395,823	4,358,284	1,497,271	8,251,378
1907...	2,422,444	3,502,662	1,134,719	7,059,825
1908...	3,345,643	5,030,924	1,537,668	9,914,235
1909...	3,016,650	5,096,238	1,308,063	9,420,951
1910...	3,236,106	6,141,469	1,394,134	10,771,709
1911...	3,553,692	6,981,961	1,954,123	12,489,776
1912...	3,869,127	7,940,071	2,130,729	13,930,927
1913...	4,411,455	10,220,001	3,011,005	17,642,461
1914...	4,293,412	9,583,462	3,227,519	17,104,393
1915...	3,061,189	9,907,278	1,418,379	14,386,846
1916...	2,957,776	15,192,511	1,108,039	19,258,326
1917...	4,183,090	23,151,423	1,338,485	28,672,998
1918...	3,316,961	23,262,817	1,260,798	27,840,576
1919...	3,397,095	28,719,765	2,165,787	34,282,647
1920...	4,154,345	23,854,300	1,877,457	29,886,102
1921...	6,037,185	26,787,896	3,509,531	36,334,612

Since 1880 ten of Canada's chemical industries have grown till in 1919, the production of each was above the ten million dollar mark. One of the ten, "Sugar Refining," passed the hundred million-dollar mark in that year. Based on 1919 output, the ten leading chemical industries, arranged according to the value of their total production were:—sugar, leather tanning, petroleum refining, brewing and malting, paint and varnish making, soap making, patent and proprietary medicines, coke, illuminating and fuel gas, the tenth total being that for "miscellaneous chemical industries," which group really occupied seventh place. While the increase in the value of products over the whole field from 1880 to 1919 was approximately tenfold, some industries far exceeded this factor, while others ran below. The most outstanding record of development was that of the manufacture of ink, which, in 1880-81, accounted for products valued at slightly more than $2,000, and in 1919 was well above $2,000,000. A few industries in which the value of products even in 1880 was high did not show such a remarkable growth, but the actual value of production showed a solid increase. Brewing and malting, for instance, which increased only fivefold, produced $5,000,000 in 1880 and $23,629,000 in 1919. The petroleum refining industry also produced oils worth $5,000,000 in 1880 and products worth more than $43,000,000 in 1919. The development of the tanning industry, while less rapid, has been substantial, products rising in value from $15,000,000 in 1880 to $47,000,000 in 1919. In the following paragraphs the growth of the several industries is noted in detail, excepting sugar, brewing and leather, as not being closely related to the interests covered by the Reporter.

In the past few years there has been much activity and prosperity in the petroleum refining industry in Canada, and products to a value of more than $43,000,000 were made in 1919 as compared with a total value of slightly over $4,000,000 in 1881. The number of establishments has, however, declined in the forty years under review from 44 to 10, but the capital investment has grown from $1,800,000 in 1880 to $43,000,000. More than 3,500 men were employed in this industry in 1919, or seven times as many as in 1880.

The stimulus to the development of the industry caused by the rapidly increasing demands for motor fuel has been reflected in Canadian fields as in all other petroleum producing countries, and the development has kept pace with the increasing needs. The production for 1917 was more than four times greater than in 1911, and the annual increases in the value of the refinery production in 1918 and 1919 were at the rate of approximately 25 per cent. The development of the petroleum fields in the United States has been reflected in Canada in the refining industry, which has been developed not on the basis of crude oil available in Canada, but rather on the requirements of the consuming public. Of the oils treated in the refineries, only a very small proportion comes from Canadian oil wells, the bulk of the oils used being mid-continent crudes.

Wages paid in petroleum refining in Canada increased from $194,000 in 1880 to $4,700,000 in 1919.

The investment of capital in the industry has closely followed the annual value of production. At times throughout the period under review production rose noticeably in relation to the capital investment, but in 1919 the investment and the annual value of produc-

CODES:
Bentley
A. B. C.
Lieber
Marconi
Private

CHAS. PAGE & CO. LTD.

CABLES:
"Paganini"
London

47-51 KING WILLIAM STREET, LONDON, E. C. 4
26 BROWN STREET, MANCHESTER

Chemicals
For All Trades

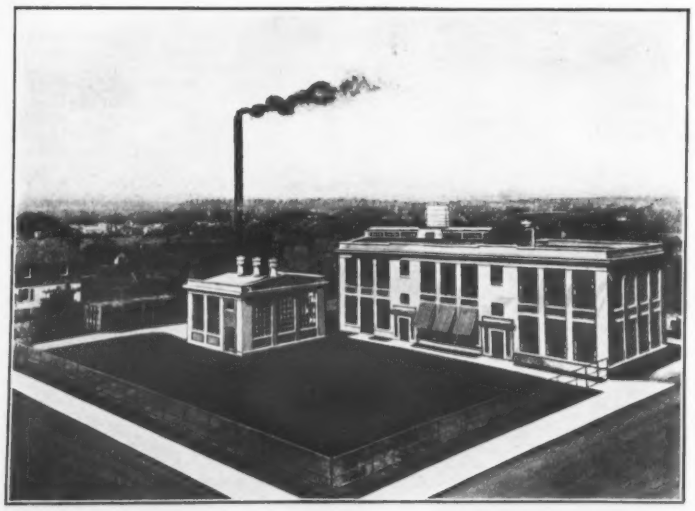
Coal Tar and Ammonia Products

Fertilizers

Dyestuffs and Intermediates

PRICE LISTS ON APPLICATION
Offers and Inquiries Invited from Responsible American Houses

Atophan
TRADE MARK



Our Manufacturing Laboratories at Bloomfield, N. J.

Here's where genuine Atophan is manufactured by a special process completely precluding the possibility of unpleasant empyreumatic admixtures.

This means a still further improved Atophan for the treatment of Rheumatism, Gout, Neuralgia, Neuritis, Sciatica, Lumbago and "Retention" Headaches.

We are advising the Medical Profession everywhere.

Complimentary trial package to any Druggist who requests it on his letterhead.

SCHERING & GLATZ, Inc.
150-152 Maiden Lane New York

tion were almost on a dollar to dollar basis. This trend of investment proportionate to the value of the output confirms the belief that in Canada petroleum refining has developed along conservative lines in a way which points to permanent and satisfactory progress.

In recent years the manufacture of paint and varnish, stimulated by the great war demand, has increased out of all proportion to the pre-war rates of development. In 1880 thirty-two plants in Canada employed a total of 281 men, having a total capital valuation of $700,000, used up materials worth $800,000 in the manufacture of paints and varnishes which sold for $1,300,000. In 1901 the number of plants had decreased to 18; the number of employes had almost doubled; capital invested had increased three times, and the value of products was more than double at $2,700,000. Ten years later eight additional plants had been started up and the number of employes was again doubled to 865. The capital investment had increased threefold and the value of products fourfold to eight million dollars. In 1917, 1918 and 1919 forty-six plants employed from 1,300 to 1,500 men and made paint and varnish worth approximately $20,000.000 annually. Wages increased from $880,000 in 1917 to $1,-250,000 in 1919. The manufacture of paint and varnish is one of Canada's most creditable chemical industries, manufacturers generally recognizing the importance of scientific study of materials and products, and combining as a whole in a vigorous publicity campaign for more extensive use of paint and varnish.

Table 2

Exports of Canadian Products, Chemicals and Allied Products, During Fiscal Years Ending March 31, 1892-1921

Fiscal years.	United Kingdom.	United States.	Other countries.	Total imports.
1892...	$573,568	$111,502	$75,730	$760,800
1893...	257,541	115,766	87,467	460,774
1894...	217,284	83,829	66,797	367,910
1895...	204,089	199,876	58,306	462,271
1896...	240,574	182,026	59,061	481,661
1897...	142,329	157,802	82,810	382,941
1898...	120,782	172,360	99,614	392,808
1899...	172,360	197,723	129,402	499,907
1900...	232,025	114,388	110,517	456,930
1901...	245,905	377,982	168,088	791,975
1902...	240,375	581,741	181,308	1,003,424
1903...	213,173	653,954	268,217	1,135,344
1904...	178,779	707,603	324,977	1,211,359
1905...	292,171	777,721	332,725	1,402,617
1906...	411,925	902,430	470,445	1,784,800
1907...	327,688	712,524	320,991	1,361,203
1908...	343,776	1,052,636	592,043	1,988,455
1909...	358,472	1,073,620	612,376	2,044,468
1910...	527,404	1,483,934	656,169	2,667,507
1911...	543,300	1,684,008	673,071	2,900,379
1912...	504,691	1,606,411	863,473	2,974,575
1913...	613,595	2,270,631	934,196	3,818,422
1914...	496,469	3,169,015	968,057	4,633,541
1915...	649,334	3,749,631	893,016	5,291,981
1916...	7,640,515	6,757,005	1,550,960	15,948,480
1917...	32,593,751	15,137,772	4,861,412	52,592,935
1918...	27,856,626	17,576,572	3,697,886	49,131,084
1919...	20,176,855	30,671,606	5,951,338	56,799,799
1920...	3,595,936	13,803,067	5,182,046	22,581,049
1921...	3,225,947	11,694,858	4,661,246	19,582,051

The sixth industry of importance, the manufacture of soap, is another in which the development has been on lines making for permanency. Here, again, the number of establishments has declined to 39, or exactly one-half the number in 1880, but the capital investment has grown from $900,000 to more than $12,000,000 in the same period. Products made have increased in value by continual steps from $1,-900,000 in 1880 to more than $17,000,000 in 1919. Canada still imports considerable quantities of soap, but the Canadian manufacturers are able to take care of an ever-increasing share of the domestic market and at the same time meet competition in certain lines in the export field.

The unspecified miscellaneous chemical industries made nearly $14,000,000 worth of products in 1919, and as a group ranked seventh, but owing to the variety of products made, a discussion of this industry would take up more space than could here be profitably devoted to the subject.

By-product coking of coal in Canada has followed the development of the metallurgical industry, and in 1919 there were seven plants employing 854 hands, the total value of the output being $13,145,000. Annual production statistics for coke date back to 1886, when a total of 35,396 tons, worth approximately $100.000, was made. By 1901 producion had risen to $1,228,000, and in 1904 the output passed the $2,000,000 mark. In 1918 the value of the coke made was about $11,000,000, while the output of the plants reporting, including coke and by-products, reached a total of $13,826,000. There was a recession in production in 1919, the value of the output dropping to $13,145,000, this value covering not only the coke but also the by-products made. In Canada, as in the United States, the retort oven is gradually displacing the wasteful beehive oven. At the beginning of 1918 there were 810 retort ovens in Nova Scotia and 110 retort ovens in Ontario. At the same time there were 1,356 beehive ovens in Alberta and British Columbia. During the year 120 new Koppers ovens were added in Nova Scotia and 105 of the Koppers and Wilputte types were constructed in Ontario. Throughout that year ten of the retort ovens in Nova Scotia were inactive, but in the Western provinces 534 of the beehive ovens remained idle.

In 1920 the total number of non-by-product coke ovens installed in Canada was 1,370, but throughout the year only 676 of these were in operation. By-product ovens numbered 510 in all, all of which were in use during the year.

The illuminating gas industry, which ranked next to coke in order of importance in 1919, showed a growth in the value of products made from $1,100,000 in 1880 to $11,344,000 in 1919. The number of plants remained practically constant, there being 36 in 1880 and 39 in 1919. Included in the value of the output are gas, sold for domestic and industrial purposes; ammonia liquor; ammonium sulphate; tar; pitch and coke. The installations in the principal cities of Canada are, for the most part, efficient and economical in operation, although it is true that some of the larger producers have not yet come to see the advisability of recovering the by-products made in the process of gas production. For the most part this is due to the fact that the by-products command such low prices in the world's markets and the point of production is so far removed from the possible markets that the cost of freight makes production on a commercial basis at the present time an impossibility. Work is going forward, however, with a view to developing new markets and finding new uses for the by-products, and it is probable that the recovery of these products will be undertaken in the near future.

The principal statistics relating to the Canadian chemical industries, as shown by the census returns from 1880-81 to 1919 have been collected in table 3, in which, for each industry, by decennial periods, the number of establishments, number of employes, capital invested, total yearly wages, cost of raw materials and the value of products have been itemized.

It will have been noted that in this review of the chemical industries of Canada the classification used has been, for the most part, based on the processes involved. In this way a very wide field has been covered down to and including 1919. The Dominion Bureau of Statistics of Canada was established in 1918 with a view to the co-ordination and consolidation of the statistical work of the Dominion Government and as a result of this act machinery was set up by which provision was made for an annual survey of industrial progress. The first report, prepared in 1917, was based on data collected in 1916. Owing to the immensity of the task imposed the work done in the first year, while infinitely better than anything which had been done through the agency of the decennial census, left much room for improvement. It was not until the beginning of 1919 that work of a special nature on the chemical industries of Canada was undertaken. In this more specialized work the term "Chemical Industry" was defined to include such industries as used chemical processes in the manufacture of their products. Based on the study made in 1918 and 1919 by the officers of the bureau a new classification was evolved which provided for the grouping of the manufacturing establishments in Canada according to the component materials of the principal products made. During the past year attention has been directed to the reclassification of the chemical industries of Canada on this new basis and from this time on annual reports will be issued showing complete statistics of the industries producing chemicals and allied products, while each of the other divisions of manufactures will be covered in a similar way. Such industries as sugar refining and the manufacture of starch and glucose, which formerly were classed as chemical industries owing to the nature of the processes used will now be included among the industries working up "Vegetable Products." Leather tanning and the refining of animal fats and oils will be dealt with under the heading of "Animal Products." An essential feature of the production statistics based on this classification is the fact that the data obtained will be directly comparable with the corresponding data relating to imports, exports and internal trade. The plan of classification has been extended to occupations and the workers will be grouped according to the industries in which they are engaged, the industries being classified as previously noted. While therefore, at the present moment the statistics relating to the production of chemicals and allied products for 1920 are not directly comparable with those recorded for 1919 and preceding years, the plan adopted seems to offer many advantages for the future over the plan formerly used. Later in this review statistics of production of chemicals and allied products in 1920 will be referred to, but as a link between the past and the present a few notes may be made regarding the chemical industries of Canada in the reconstruction period.

Changing conditions following the war were reflected in the chemical industries of the country much as in other industrial activities throughout the Dominion. The most noticeable falling off of the industries with which industrial chemistry had to do was, of course, in munitions. The efficient way in which the Imperial Munitions Board built up and maintained this group during the war has been the cause of much favorable comment. With the armistice, however, the need for their products collapsed, the various plants were closed, and in many cases were immediately dismantled and sold. Raw materials stocked by these concerns were thrown on the market, and for a time the glut thus produced caused established and permanent industries much concern. That period, though trying, has come to an end, and market conditions are becoming more settled and trustworthy.

The firms continuing to manufacture explosives are in several instances expanding their interests, and are going into the manufacture of fine chemicals on a modest scale. Medicinals are still being produced, but the prospects are somewhat uncertain in this field. The paint and varnish industry is advancing by leaps and bounds, and shows every prospect of becoming one of the most successful of Canadian developments. In wood distillation there is much room for advance, and laboratories will have plenty to do for some time. In the manufacture of pulp and paper, waste on a considerable scale continues, but the application of intelligent scientific control of processes and plants is having its effect.

Table 3

Statistics of Canadian Chemical Industries, as Shown by Census Returns from 1880-81 to 1919

(Note—In 1901 only establishments employing five hands or more are included.)

Industry and census year.	Number of establishments.	Capital invested.	Total value of articles produced.
Ashes, pot. and pearl—			
1880-81	225	$138,604	$345,096
1891	4	42,139	23,100
1901	..	.....	.....
1911	..	.....	.....
1917	3	8,643	20,080
1918	2	1,650	9,295
1919	2	1,220	4,740
Baking powder and flavoring extracts—			
1880-81	6	53,100	129,100
1891	10	234,220	588,700
1901	13	273,965	524,016
1911	22	545,819	963,090
1917	25	1,961,828	2,947,682
1918	24	2,259,753	3,153,706
1919	25	2,895,150	4,256,390
Blacking and stove polish—			
1880-81	3	32,900	26,000
1891	1	2,200	2,600
1901	6	64,468	128,217
1911	13	450,132	691,029
1917	31	650,665	1,101,461
1918	31	972,858	1,822,949
1919	33	1,036,227	1,769,552
Boiler compound—			
1917	4	14,467	27,720
1918	4	176,789	137,876
1919	6	144,994	188,144
Carbonic acid gas—			
1917	3	345,551	184,472
1918	4	439,598	221,001
1919	4	453,850	332,659
Disinfectant—			
1917	6	37,001	65,565
1918	7	67,942	117,228
1919	7	146,954	159,902
Dyes and colors—			
1917	..	.....	.....
1918	3	194,917	222,882
1919	5	267,977	304,555
Fertilizers—			
1880-81	3	252,200	90,500
1891	8	160,650	222,324
1901	6	130,910	101,250
1911	10	985,500	643,733
1917	12	2,763,101	2,295,074
1918	15	3,064,111	2,614,345
1919	15	3,545,554	2,641,097
Glass works—			
1880-81	9	307,000	569,000
1891	10	381,000	683,500
1901	11	1,522,692	995,401
1911	9	2,521,000	2,269,158
1917	11	5,344,573	4,873,471
1918	9	7,443,525	6,662,106
1919	8	7,231,774	7,171,006
Ink factories—			
1880-81	2	900	2,150
1891	2	26,000	55,000
1901	3	46,700	105,000
1911	12	486,093	568,255
1917	12	833,235	1,327,392
1918	14	1,022,089	1,746,935
1919	16	1,234,672	2,019,037
Oils, vegetable—			
1880-81	1	25,000	55,000
1891	2	357,500	377,000
1901	..	.....	.....
1911	..	.....	.....
1917	23	4,273,288	7,476,011
1918	19	4,493,292	7,060,512
1919	18	3,925,103	9,768,699
Paint and varnish—			
1880-81	32	712,415	1,311,300
1891	24	1,409,330	1,800,600
1901	18	2,217,059	2,786,593
1911	26	6,277,915	8,041,154
1917	46	16,214,621	20,035,954
1918	45	15,784,610	17,796,518
1919	46	17,852,176	19,523,086
Patent medicine manufacturing—			
1880-81	29	302,300	666,580
1891	14	154,579	421,100
1901	35	1,103,065	1,350,993
1911	37	3,014,652	3,214,939
1917	97	6,047,732	8,774,014
1918	118	8,821,901	12,355,053
1919	97	11,827,595	13,739,776
Perfumery and cosmetics—			
1917	7	343,316	471,673
1918	5	342,566	418,076
1919	16	764,168	1,128,000
Petroleum refineries—			
1880-81	44	1,812,700	4,049,685
1891	13	1,840,000	1,686,445
1901	14	2,431,271	3,519,493
1911	29	5,998,903	7,682,510
1917	6	16,498,819	29,579,303
1918	10	35,745,410	37,866,907
1919	10	43,158,655	43,256,317
Soaps, candles and washing compounds—			
1880-81	78	916,025	1,956,653
1891	30	940,508	1,909,390
1901	26	2,352,707	2,164,445
1911	29	5,778,452	5,503,420
1917	43	10,454,250	18,012,853
1918	38	13,206,129	21,149,176
1919	39	12,184,453	17,729,657
Starch and glucose—			
1880-81	7	308,000	212,000
1891	10	437,000	483,850
1901	12	990,075	1,006,400
1911	11	1,651,375	1,744 381
1917	13	3,670,806	5,292.771
1918	12	3,784,664	7,788.742
1919	7	6,332,658	7,953,273
Wood distillation—			
1880-81	32	55,843	70,030
1891	3	49,600	71.972
1901	..	.....	.....
1911	3	824,886	168,952
1917	13	4,050,951	5,261,176
1918	13	3,612,573	7,634,122
1919	13	5,760,395	2,807,037
All other chemicals—			
1880-81	47	684,800	820,850
1891	36	1,845,526	1,733,725
1901	19	1,606,908	1,380,905
1911	58	7,476,174	4,696,088
1917	94	32,449,067	26,548.301
1918	78	41,348,207	48,907,498
1919	56	26,725,890	14,153,633
All industries—			
1880-81	1,758	$25,838,589	$43,464,034
1891	496	44,590,533	42,523,270
1901	458	57,513,876	49,741,168
1911	550	131,245,322	111,403,380
1917	751	266,855,456	322,911,467
1918	754	313,079,631	345,360,747
1919	697	324,948,058	355,273,696

Industrial chemistry as a science is the product of recent years. In America its greatest advance has undoubtedly been during the past fifteen years, due mainly to the endeavors of such workers as the late Robert Kennedy Duncan, a graduate of a Canadian university, whose activities led eventually to the establishment of the Mellon Institute at Pittsburgh, which has done so much to popularize the science of chemistry by magnificent successes won in the industrial field.

During the war Canadian chemists responded to the national call by creating and perfecting processes for the production of chemicals needed in its prosecution. The work done at Shawinigan Falls, where the world's largest acetic acid plant was completed and put into commission as a war effort, needs no mention here. Many chemicals formerly entirely imported from Germany are now made in Canada on an ever-increasing scale and in a high state of purity. Magnesium, refined nickel, aluminum, aluminous and silicon carbide abrasives, ferro-silicon and other ferro-alloys, picric acid and soda ash are names of Canadian products, the mention of which recalls war-time effort and notable achievement.

Data regarding production, imports and exports of all commodities are regularly compiled for Canada by the Dominion Bureau of Statistics at Ottawa. Production statistics are issued annually—in some cases monthly; imports and exports, as compiled from customs data, are printed monthly. Of interest particularly to chemists is the establishment within the past year of the Mining, Metallurgical and Chemical Branch of the Bureau, whose particular task is to collect and compile data relating to the chemical and mining industries of Canada, and to publish reports thereon. These data will be found of value as a barometer showing the rise or fall of production and possibly as a guide o profitable new developments. A Research Institute, planned to combine the Mellon Institute scheme of industrial research with the Bureau of Standards field of endeavor, has been proposed. Several laboratories of the Federal Government departments are doing investigatory work on Canadian natural resources, their utilization and development, and from time to time records of the work done are printed for the information of the public.

Everywhere in Canada the opportunity for expansion in lines requiring the application of the principles of chemistry, electro-chemistry and metallurgy is unlimited. The needs are for scientific men with the knowledge, imagination and energy proportionate to the greatness of their task, backed by the financial assistance of those who have the foresight to appreciate the accomplishment which is possible.

The continuous advance which represented normal conditions before the war was much accentuated in the last four war years, and it is encouraging to note that during the past two fiscal years the export trade has been maintained at a level very considerably above what the normal pre-war rate of increase would have produced.

It seems hardly necessary to point out that this, the tables given herewith, form the essential information required by anyone desirous of opening up a new line of chemical manufacture in Canada.

The production of chemicals and allied products in Canada in 1920 was studied under ten group items, namely: —Coal tar and its products; chemicals other than coal tar; explosives and and pyroxylin products; fertilizers; medicinal and pharmaceutical preparations; pigments, paints and varnishes; soaps, perfumery, cosmetics and other toilet preparations; inks, dyes and color compounds; wood distillates and extracts; miscellaneous chemical industries. The industry coming under these items comprised 449 establishments, employing more than 13,000 hands. A total of nearly $120,000,000 was employed as capital, and products aggregating $119,000,000 in value were made. Pigments, paints and varnishes were easily the leading group. Soaps, perfumery, cosmetics and other toilet

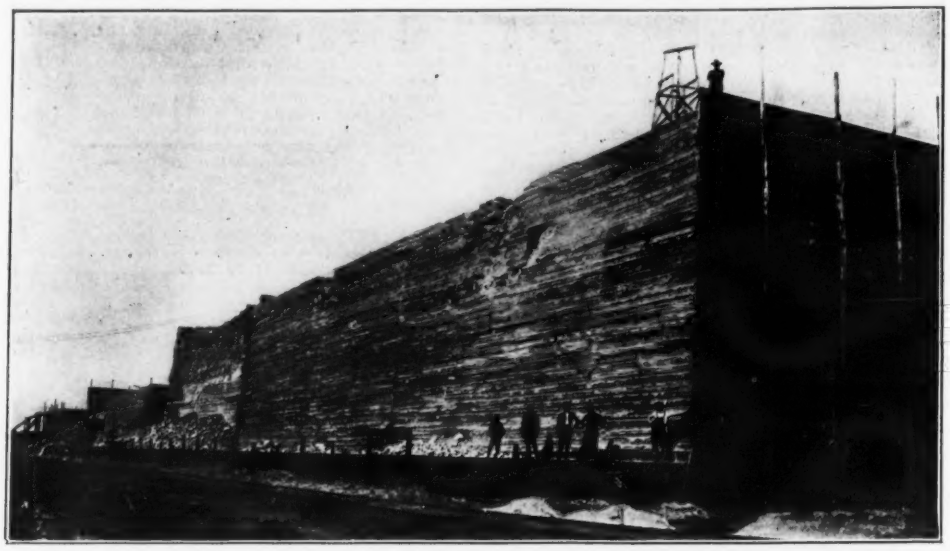
Pioneers of the Sulphur Industry

When the UNION SULPHUR COMPANY put America on the map as a Sulphur Producing Country, they inaugurated, and still enjoy, a reputation for Service which for nearly twenty years has beenmaintained and is unsurpassed in any industry.

PURITY and SERVICE

are assured when you buy or contract for UNION Sulphur. Rail or vessel—car or cargo lots

Spot Purchases or Time Contracts



Ample Reserve Stocks Insure Prompt Shipments

THE UNION SULPHUR COMPANY

Mines: CALCASIEU PARISH, LOUISIANA

Main Office: FRASCH BUILDING, 33 RECTOR ST., NEW YORK CITY

Make 1922 the Greatest Paint and Varnish Year

H. D. RUHM

CHEMICAL AND MINING ENGINEER

136 Liberty Street — Phone—RECTOR 4437 — New York City

I BUY AND SELL ALL CHEMICALS AND RAW MATERIALS

For the Paint, Varnish, Color, Chemical Soap. Textile Tanning and FERTILIZER *Industries*

PHOSPHATE—ALKALI—CHLORINE—POTASH

Consultation and Expert Assistance in

1—Devising, Adapting, Installing, Improving, Marketing old and new processes for old or new products.

2—Examinations, Appraisals, Reports on existing plants looking to improvement of present operations or adapting idle or unprofitable plant to new operations.

I Will Be Glad to Discuss Your Problems—Buy Your Needs or Sell Your Product

President
RUHM PHOSPHATE CO.
Mt. Pleasant, Tenn.

New York Representative
WILSON & BENNETT MFG. CO.
BENCO STEEL CONTAINERS

preparations came second with chemicals, other than coal tar a close third.

Detailed statistics showing the number of establishments in each group, the number of wage-earners employed, wages paid, cost of materials used and value of products made, have been collected in table 4.

Progress in the manufacture of chemicals and allied products in recent years has been rapid and the results attained have more than justified the ventures made. The future of the industry is assured. The professional chemist and the chemical manufacturers have combined to advance the common weal and a feeling of optimism dominates and leads the industry. Opportunities for the development of Canadian chemical industries are being sought out by careful research, and while Canada may not lead the world, there still are some of the chemical industries in which her influence will be strongly felt.

Table 4

Chemicals and Allied Products

Production during calendar year 1920.	Number of establishments.	Capital.	Products.
Coal tar and its products	11	$1,385,012	$2,035,034
Chemicals other than coal tar	49	32,473,016	18,852,759
Explosives and pyroxylin products	24	15,164,727	10,599,448
Fertilizers	16	3,839,923	3,788,027
Medicinal and pharmaceutical preparations	102	13,725,920	15,915,436
Pigments, paints and varnishes	48	20,320,851	26,939,476
Soap, perfumery, cosmetics and other toilet preparations	58	16,238,916	19,804,815
Inks, dyes and color compounds	23	1,885,232	3,249,899
Wood distillates and extracts	17	4,247,097	4,982,283
Miscellaneous chemical industries	101	10,638,205	12,620,007
Totals	449	$119,918,899	$118,787,184

Smyrna Opium—History From 1872 to 1922

During the first decade we note that the greater part of our sales were shipped to Singapore, Java, Borneo and Formosa, much of it direct to the above countries, but a good deal by way of the United States. Many of our weekly sales amounted from 200 to 300 cases, out of which 75 per cent. was for New York and the Far East, and the balance for England and the Continent.

In the next decade other channels opened for import of the drug, such as Spain, for its South American colonies and islands, and the German morphia manufacturers who competed with the English manufacturers for the Far Eastern alkaloid trade.

From 1892 to 1901 a lot of opium was bought by the United States before the first duty was imposed by that government, and again during 1902 to 1912, before the $3 per pound duty came in force.

During the last decade we had a fair business for the first two years. During the first two war years, following, business ceased entirely, to revive again during the three years before the armistice, by railway exports to Constantinople, and thence to the Central Powers, and into Russia for the Far East by smuggling. A lot of opium during this period found its way also to the Far East, overland, from the interior of Asiatic Turkey, by relays of smugglers, first to the Caucasus, through to Thibet, and so on to China.

During the period between 1872 to 1895 the Dutch East India government invited tenders for 500 to 600 cases from the Smyrna market for their yearly requirements, but as their conditions became more and more difficult and restricted, this outlet from this primary market ceased and was taken up by Constatinople and Salonica exporters. This opium was used judiciously for the Chinese labor in their East India colonies.

After the armistice, during a period of 15 to 18 months, a heavy demand for the drug sprung up from the Far East, resulting in all the existing stocks in New York, and most of the available stocks from here and Constantinople, finding their way to Japan and other Far Eastern markets.

Owing to the dangerous drug act passed in Parliament and the prohibition law in the United States against crude opium or its derivatives being allowed to leave the country, all, or nearly 80 per cent., of these outlets have been closed. Of late, however, other channels have opened, and a great deal of the drug finds its way to Holland, Italy, Switzerland and Greece for trans-shipment to the Far East; to the South American countries, and to far northeastern Siberia, in the shape of bricks covered with thin red paper and prepared specially for these markets.

Following are the statistics by ten-year periods of the crop, average prices and sales. The crop estimates are probably a little under the actual, as a considerable quantity of opium is grown and shipped by parcel post or smuggled, from which the government receives no tithes, nor has any record. However, the figures given cover all of the opium which is marketed through legitimate trade channels.

OPIUM, 1872-1921

	Crop, cases.	Average price per lb. s.	d.	Sales, cases.
Stock	2,000			
1872	5,000	20	0	5,087
1873	3,000	22	0	6,403
1874	2,700	25	0	5,750
1875	9,000	16	0	6,000
1876	4,000	13	0	4,875
1877	9,000	12	0	5,000
1878	5,000	17	0	5,375
1879	4,500	20	0	4,000
1880	1,500	22	0	2,500
1881	6,500	15	0	6,000
	52,200			50,990

	Crop, cases.	Average price per lb. s.	d.	Sales, cases.
Stock	1,210			
1882	4,000	17	0	3,800
1883	7,460	13	0	7,460
1884	5,250	11	0	4,860
1885	8,000	9	0	8,190
1886	6,500	13	6	5,550
1887	4,000	12	0	5,600
1888	7,500	8	6	7,100
1889	6,000	11	0	6,265
1890	4,500	12	6	4,260
1891	9,000	9	0	8,600
	63,360			61,685

	Crop, cases.	Average price per lb. s.	d.	Sales, cases.
Stock	1,675			
1892	8,000	8	0	7,575
1893	3,000	11	0	4,000
1894	6,000	9	0	5,000
1895	8,500	7	3	8,750
1896	3,500	9	0	4,150
1897	8,000	7	6	7,450
1898	2,000	11	0	2,700
1899	4,500	8	6	4,300
1900	8,400	7	9	7,500
1901	4,000	9	0	4,350
	57,575			56,375

	Crop, cases.	Average price per lb. s.	d.	Sales, cases.
Stock	1,200			
1902	11,000	7	0	7,200
1903	4,000	7	11	7,250
1904	9,800	7	0	8,600
1905	4,200	7	10	6,350
1906	7,600	9	3	8,250
1907	2,160	17	5	1,500
1908	4,920	12	9	5,100
1909	5,035	14	7	4,700
1910	10,350	13	2	9,200
1911	2,900	23	7	3,900
	63,165			62,050

	Crop, cases.	Average price per lb. s.	d.	Sales, cases.
Stock	1,115			
1912	4,800	15	0	5,000
1913	9,400	12	0	8,000
1914	4,992	16	0	5,000
1915	2,428	17	6	2,650
1916	2,500	18	0	1,500
1917	1,600	13	0	1,400
1918	3,000	10	6	2,700
1919	3,000	17	0	2,500
1920	2,000	14	6	3,500
1921	1,500	9	6	1,700
	36,335			33,300

Stock existing in Smyrna and the interior on January 1, 1922, 3,035 cases.

Peppermint Oil Industry in Michigan

Mr. George Engle, of the firm of George Engle & Son, of Centerville, Mich., who is now 86 years of age, recalls very clearly the pioneer efforts in peppermint growing, back to the very beginning in the West, which was in St. Joseph county, Michigan.

In the years from 1852 to 1854, Florence township, Sherman township and Lockport township, of St. Joseph county, Michigan, were the sections in which peppermint oil was first introduced and distilled. Among these early growers and distillers in Lockport township were Daniel Francisco, William Faulkerson and Levy Miller. In Florence township, Norman Roys, John Peake, G. Dimmick, Frank Howard and others later. In Sherman township, Ely Jones, George Engle and his brothers, and, in about the years 1858 to 1860, these growers grew from 30 to 50 acres each. The yield at this time was from 20 to 30 pounds for the first year, 18 to 20 pounds for the second year, and the third year, 12 to 15 pounds per acre. This was all American peppermint, and grown on upland. The first crop from new planting peppermint was cut with a scythe by hand and the second and third years were generally cradled in much the same manner as grain at that time was cut and harvested. Prices ranged from $2.50 to $3.50 to the grower from 1850 to 1854. The probable output of peppermint of these townships was about 25,000 pounds per year.

The distilling of peppermint was about the same process as at present. Distilleries were on a very small scale compared with the modern distillery. Small sheet-iron boilers were used, with no pressure. The water for cooling was pumped by hand and the straw from the vats was pitched out by laborers. The peppermint in the early days was not allowed to dry or cure out as much as it is today. This also tended to make the distilling slow.

In 1854 there were but few buyers in the West, and among them were ex-Governor Barry of Michigan, of the village of Constantine, and Roys Brothers of Florence township, but a large part of the oil was shipped direct to New York, somewhat on the present co-operative plan, a grower being sent in charge of the shipment and making the sales. This recalls a story about one of these early growers taking all the neighbors' oils to New York. It seems that he took a lot of various kinds of oil, like wormwood, tansy, erigeron and peppermint, not knowing exactly what he took along. He sold the lot at $5 a pound. When he arrived home, and was settling up, one grower asked him what he did with the 300 pounds of erigeron. He looked blank and said that he didn't know he had any erigeron along. "Well," he said, "anyway I got $5 a pound for it." I mention this story to bring out the difference between methods in those days and today, when every pound of oil has to comply with the present U. S. P

Wolf Brothers, founders of the present line of banks of that name, were also large growers and shippers of the early days.

Up until 1860 Wayne county, New York, had been the principal seat of peppermint growing, but following that time Michigan came rapidly to the front. Somewhere between 1875 and 1880 the growing of peppermint on the lowlands began, with the increased yield, and, the marshes being easier to cultivate and keep free from weeds, the industry was monopolized by the West, because it could be produced much cheaper than in Wayne county, New York.

One of the first plantations on the marshes was owned by Hall and Johnson, and consisted of about twelve hundred acres, of which a large portion was in peppermint, and about the same time the industry was introduced into Indiana, in the vicinity of South Bend. Not until between the years 1892 and 1895 did the system of plowing under become popular, but this was found to be a great benefit to both the growers and users of peppermint, because they were able to work their fields each year and keep them clean and also increase the production, and the fields did not have to be replanted so often. Before the plowing-under system was in operation in the marshes, the crops from second and third years grew up with the weeds, and sometimes these crops were half fireweed or erigeron.

About the year 1892 the English peppermint was introduced and grown by growers near Nottaway, St. Joseph county, Michigan. The introduction of the English peppermint again caused this industry to make enormous strides, because it would yield twice as much as the native peppermint and would not deteriorate so fast at harvest time. The quality of the English oil was also better because of a higher menthol content. It was not long before the English mint had almost entirely taken the place of the American or native peppermint, but we still have some farms that are all American peppermint, particularly around Charlotte, Michigan. Many of the fields that were planted to English peppermint were ground where American peppermint had formerly been grown. These crops are badly mixed and do not produce as much or as desirable an oil as where the pure English mint is grown. Growers who today have fields of mixed peppermint do not understand why they are getting such poor yields, but the presence of the American peppermint explains this.

The introduction of English peppermint and the system of fall plowing-under came in about the same time, and this not only lowered prices but also improved the quality of the oil, so consumption of this oil was greatly increased, and it was not many years before the normal consuming trade used between four and five hundred thousand pounds yearly. Today our normal consumption will not be as much as formerly, because the high prices which prevailed during the war caused many users of our peppermint to turn to the use of Japanese mint, which had a bitter taste, and this flavor was not popular with the consuming trade, and caused our own home-grown peppermint to get a "black eye." For this reason it is very poor policy for both grower and consumer to let prices get abnormally high, because this encourages the use of other oils for flavoring and increases production. Today our consuming trade is using about 350,000 pounds, but we look for this soon to equal 500,000 pounds again, on account of the lower prices prevailing; also we hope to get more export trade.

The 1921 season brought forth nothing in the way of surprises. It started with great quantities of oil in dealer's hands which had cost around $5.75 per pound, and also the growers were carrying considerable stocks. These stocks, along with a fair crop of 350,000 pounds and depressed financial conditions, did the trick of again putting peppermint to $1.50 and lower to the grower.

The peppermint business also lost one of its very best supporters in the death of F. M. Rudd early this winter.

The year 1922 holds out bright promises for another season of cheap oil, because there will again be carried over large stocks, and a reasonable increase in acreage is expected because other farm products are in even a more depressed condition than peppermint; therefore, the grower is expected to produce another abundant crop, but, of course, if world conditions should improve, things might be different.

Considerable oil has been bought from the last crop by speculators in the West, most of it around $1.50 per pound. This Western speculation is the one factor which will prevent prices from going down, and is one thing which has kept the price steady all fall and winter. Peppermint is considered very cheap at $1.50 per pound.

Half Century's Review of the Vegetable Oil Market

There have been a number of important additions to the list of vegetable oils during the half century, most of them having appeared within the last twenty-five years. Their source has largely been seeds from the Far East and they have proved of great industrial as well as economic value, having supplemented the older commodities with acceptable substitutes without which the former sources of supplies would have been seriously overtaxed.

Linseed remains, however, the most important of the vegetable oils. It has fluctuated in value during the past twenty-five years more widely than at any previous period in its history. This has been due chiefly to variations in the seed crops. The United States from being one of the largest importers of seed has since 1900 become an exporter and again fallen back into the position of importer, and Argentina has come forward as a grower with a crop which, although generally deficient in quality, has reached a volume that placed it at the head of producing countries.

While the consumption of linseed oil in the United States has steadily grown, it has not, for the last ten or fifteen years at least, kept pace with the growth of the consuming industries, by reason of the competition of other oils, especially those adapted to paint and varnish making, but it is still the oil upon which those industries chiefly depend.

The price of raw oil in car lots was the lowest in its history in 1897-98 when there were sales at 24c. per gallon of 7½ pounds. In 1866, when the inflated prices caused by our Civil War were at their peak, oil sold at $1.80 per gallon, while in 1919, in the aftermath of the world war, the price reached $2.20 per gallon. In the previous instance the high price was due mainly to the depreciation of our currency, while in 1919 it was in keeping with inflated values throughout the world resulting from the stoppage of supplies from normal sources of production.

Corn oil, although known by name for many years, was not made in sufficient quantities as late as 1872, so that a commerciad sample could be obtained in this market. The processes of manufacture followed at that time gave a product of rank odor and pronounced flavor and the cake was deficient in both foodstuff and fertilizing qualities. In the twenty-fifth anniversary number of the Reporter in 1896 the product was referred to as attracting increased attention, but it was so far from having an established place that only vague hopes were expressed as to its probable future. Since that time new processes of manufacture, the outgrowth of the glucose industry, have eliminated the objectionable odor and flavor and the oil is now a bland beautiful product which has gained for it a place among the edible oils as well as among the soap fats. It lacks the drying qualities necessary for a paint oil, but a vast amount of experimenting has been done to overcome this defect and a good many hundred barrels of linseed oil have been at one time and another rendered unfit for paint by the admixture of corn oil in the hope that the linseed oil was enough of a dryer to carry with it, without detriment, a good proportion of the then cheaper non-drying corn product. The other channels through which it has found an outlet, however, have given it a place at prices conforming more closely to those of competing fats.

The development of the coconut oil industry in this country was largely the result of the World War, practically all of this oil consumed having been imported up to a few years ago. The production of coconut oil, as well as other vegetable oils such as soya and

DIFCO

PEPSIN, Soluble SPONGY GRANULE 1:3000, 1:6000, 1:10,000

PANCREATIN, U.S.P. IX RENNIN, POWDER and GRANULE

DIASTASE, ANIMAL and VEGETABLE

GLAND SUBSTANCES, DESICCATED

EPINEPHRIN CHLORIDE, CRYSTALS and SOLUTION 1:1000

LIQUOR HYPOPHYSIS : OBSTETRICAL

SPECIAL CHEMICALS

CHEMICAL and BACTERIOLOGICAL REAGENTS

RARE SUGARS

The BEST in QUALITY and SERVICE

DIGESTIVE FERMENTS COMPANY

DETROIT, MICHIGAN, U. S. A.

The Baker Castor Oil Co.

Baker's CRYSTAL A. A. No. 3

CASTOR OIL

Largest Producers of Castor Oil in United States

120 BROADWAY NEW YORK

peanut, has been greatly increased during the past ten years, new uses having been found. The consumption of coconut and peanut oils in the manufacture of food products has materially increased. The growth of the coconut oil industry in the Philippine Islands has been remarkable during the past eight or ten years.

The production of cottonseed oil in the first year of the Reporter's existence was about 3,000,000 gallons, and the following season opened with crude cottonseed oil above 40 cents a gallon. In one of the earliest issues of the Reporter there appeared an extract from a New Orleans paper which had been taken from the Niles Register of 1829, in which it was stated that cottonseed yields a considerable portion of excellent oil, but that owing to the difficulty of expressing it no greater quantity of the oil has been made. In 1852 a New Orleans crusher of linseed crushed a small amount of cottonseed in his mill. The oil was intended for medicinal purposes and sold for about $1 per gallon. About 1855 the manufacture of cottonseed oil was undertaken by a Providence oil company on what was then regarded probably as a commercial scale. It was not until after the close of the Civil War that cottonseed oil became of any great importance commercially. In 1871 the number of cottonseed oil mills had increased to about 30. At that time the chief use of cottonseed oil was as an adulterant and except in the manufacture of soaps it had practically no outlet of its own unassociated with other oils. The use of cottonseed oil for burning purposes has never been large, although in the mining industry it displaced lard oil to a considerable extent. In the early eighties the industry grew rapidly and with the improvements in the methods used in manufacturing and refining there also arose the necessity of finding new outlets for the product. The credit for securing these outlets in the North is attributed largely to the receivers and brokers in this city who had the handling of the oil.

Among the earliest crushers in the South was Jules Aldige, who began the industry at New Orleans before the Civil War and is credited with having more to do with building up export trade in cottonseed oil than any other individual. His brands were for a long time the most popular in Continental markets and the quality of his products gave a permanent standing to this oil as a permanent substitute for the more costly native edible oils of foreign countries. Capt. D. C. McCann and W. E. Hamilton were also among the pioneers of the business at New Orleans, while at Memphis, where the industry also developed early, the names of Wyley B. Miller, J. W. Cochran, J. C. Johnson and E. Urquhart were prominently associated with the business.

At other points in the South the most conspicuous developers of the industry were George O. Baker, at Selma, Ala.; O. O. Nelson, at Montgomery, Ala.; Robert Thompson, at Nashville, Tenn., and James R. Miller, at Little Rock and Memphis. Col. J. H. Duggan, who was connected in the early days of the industry with one of the New Orleans houses, later on entered the brokerage business in cottonseed products and was one of the first men in the South to devote himself to this branch of the business.

One of the most serious problems confronting crushers during the early days of the industry was the successful marketing of the rapidly growing production of cottonseed cake and meal. The house of Soper & Co. at Boston did more than any other house to promote the sale of these products in the North, and for a number of years this firm was the chief distributor of meal.

Vicissitudes of the American Animal and Fish Oil Markets

The whaling fleet was still a picturesque monument to American industry and enterprise of an earlier period and still furnished an important part of the oils used for lighting, lubrication and other purposes, when the Reporter first appeared. New Bedford was the chief port for whalers, whose cruising ground was mainly in the North Pacific, and the personnel of the oil trade in New York was mostly of New Bedford origin and education. The statistics appended to this report show the extent of the whale and sperm oil business at that date, and how later on it was affected by the competition of mineral substitutes. In 1857-58 the whaling fleet numbered over 600 vessels valued at $15,000,000, and employing 10,000 men.

For a number of years after petroleum had obtained almost complete control of the domestic lighting field, the railroads used sperm oil both for headlights and car lighting because of its safety and low congealing point.

As far back as the forties lard oil was introduced for both lubricating and illuminating purposes. Fish oil men were alarmed over the appearance of this competition, but the production was not on a sufficient scale to prove serious to their interests. By 1850, however, the production of lard oil had increased, and it commenced to cut into the consumption of sperm, especially for lubricating and burning in railway cars. The use continued to grow until petroleum products appeared on the market. Before the introduction of mineral oils on the railroads sperm and whale oils together with tallow were used chiefly. Whale and sperm were used for almost everything that oil was wanted for excepting leather, on which neatsfoot and fish oils were used. The city of New York was lighted by sperm and whale oils and an oil composed of equal parts of sperm and lard oils. The foots from which whale and sperm oils were pressed were largely used in the early days for making gas which was used by some of the theatres and hotels of that period. The foots were also used for soap making purposes.

Menhaden, the most important of the fish oils, did not loom large as a distinct industry until well past the middle of the century, the first factory having been established at Greenport, L. I., in the late '50s. At that time, fishing was an individual enterprise, and was carried on by sail boats for more than 20 years thereafter, when the fishermen began to operate on a larger scale. Steamers were employed about 1876 and the fishing extended over a longer reach of coast, as the fish disappeared from one point and appeared at another. Their migrations extended from Virginia to Maine waters, and were not so successfully followed by sail boats as by steamers. At that period the common method of extracting oil was to place the menhaden in vats or casks and allow the oil to work out by the decomposition of the fish.

In 1875 the menhaden fleet comprised 80 boats, and in 1886 the first floating factory was installed on a steamer, which permitted the extracting of oil and treatment of the fertilizer while the boat remained on the fishing grounds. Up to 1879 most of the fertilizer had been sold crude, but in that year treatment at the factory with sulphuric acid, which rendered the material more stable and increased its anmoniacal value, was begun. The consolidation of the competing interests into large corporations was undertaken in the '90s and the industry expanded, but not with glittering success as a financial enterprise. It is still in the hands of larger operators than had previously conducted it, and is a well organized and established industry, the manufacturing and selling ends both being conducted more efficiently and economically than formerly. Its stability as the chief source of supply for fish oils, as well as an important source of fertilizing material, seems assured.

The disappearance of the fish from the bays and coast in 1880 created fear among fishermen that the fish were becoming extinct, but Professor Goods of the United States Fish Commission expressed the opinion that this was not so. His opinion was confirmed in the following year, when on one day in June fully 6,000,000 fish were taken between Montauk Point and Fire Island.

The United States Menhaden Oil and Guano Association was formed in 1874, Luther Maddocks, of Boothbay, Maine, being the first president. At a meeting of the association in 1882 the use of purse seines and steamers was condemned by some of the members who feared the ruin of the industry. There was a proposition before the New Jersey Legislature to restrict the fishing along the coast of that State, owing to the belief that large numbers of food fish were being destroyed. In 1872 the highest price reached for crude menhaden oil was 60 cents per gallon and the lowest 37 cents.

The other fish oils still appear in the market quotations and have a limited call for uses for which either through the established prejudices of consumers or because of real merits, they seem to be specially adapted.

Three great improvements in the manufacture of cod liver oil within the past seventy-five years give some adequate idea of the progress made:—

1848. The first introduction of rendering out the oil from the livers by indirect heat in pans with hot water bottoms.

1885. The freezing process for removing the stearine from the oil.

1903. A new process for rendering out the oil from the livers by direct steam in a single pan.

Charles Fox, a chemist in Scarborough, Eng., initiated this first improved process of refining oil by hot water pans. He was an enthusiast in this work, and started his first factory in St. John's harbor in 1848. Previous to this time the brown cod liver oil was used as a medicine, and the only cod liver oil known on the market.

Outline of Natural Dyestuffs Market for 50 Years

Any review of the traffic in natural dyestuffs for the past fifty years can hardly fail to reveal one thing:—That the market has reached its summit, and that during the past ten years has been declining steadily. There now seems little question but that the next few years will see the gradual and complete dissolution of what was once one of the most important of trades. The immense progress in the manufacture of coal tar dyes and aniline colors is directly responsible for this decrease in popularity of natural dyestuffs. In a survey of the past fifty years of trading in this country the status of the industry in the eighties and nineties as compared with its present position reveals an almost total eclipse of such items as indigo, madder and cochineal.

When madder first came prominently into view it was one of the great speculative items. Fortunes were made and lost dealing in this dyestuff, a plant that was produced in enormous quantities in the marsh lands in Belgium and France and the Netherlands. It was used in all textile and leather industries for producing a rich maroon color, and achieved wide use, especially in dyeing of cotton. The importations of madder assumed gigantic proportions during the eighties of the last century; it was almost incredible that such quantities of the plant could be utilized in the mills of the country. Of course, much of this was exported to the Orient and various other countries. At times the market in madder approached that of the cotton market of today in its most feverish aspects. But with the perfection of the manufacture of alizarine colors the doom of natural madder began to be sealed. The warning was written large in every land, and now, as far as America is concerned, not more than two or three importers at most ever have stocks; and as an article of commerce it has descended into a very inferior place. In France the production has been practically abandoned. There is still some produced in Belgium and especially the Netherlands, but it is gradually going out of use even in the more remote parts of the Orient, and so year by year sees a steady decline in output.

The indigo industry, formerly one of the chief sources of income to the Indian merchant, has suffered a like reverse owing to the facility for producing the synthetic article. Production of indigo in India seems to go in circles. For five or ten years there will be a small increase in acreage cultivated and a consequent gain in production. Then there will be a gradual decline for a like period, when the industry will reach an extremely low, and cause all sorts of pessimistic comment on the part of those interested. The trend of the last few years has certainly been in the latter direction, and never before has the Indian indigo situation presented as few encouraging features as it did last year. The enormous gain in production of the synthetic variety has enabled America to export quantities to the Orient; China and Japan notably were large takers of the synthetic during 1917 and 1918; since the latter year the German competition has resulted in a partial loss of those markets. But even in the most inaccessible portions of China and Thibet, where dyeing methods of extreme primitiveness are used, the synthetic is winning ground constantly. In India itself the synthetic is now preferred to the natural article because it is easier to use, results in dyeing cloth evenly, does not have sediment and impurities as the natural does, and can give always uniform results. As far as the American market for natural indigo is concerned, it now seems doomed to oblivion. That fact is freely recognized; even in India, according to the census of 1921, the amount of ground given over to cultivation of indigo was the smallest in four years. The crop also was a partial failure.

The outbreak of the European war, which left the American textile industry stranded for want of colors with which to carry on operations, led to a sudden, but comparatively short lived, revival of the natural dyestuffs trade. Then it was necessary to use the natural materials that could be obtained, as consumers of aniline colors found their source of supply (Germany) cut off, and the ease with which they had always been able to get these colors from abroad had naturally had a deterrent effect on production here. (In 1914 there were only four plants in America manufacturing aniline colors and coal tar products.)

In 1918 this shortage of dyes led to a thorough investigation of sources of supply of sumac, logwood, quebracho and others of varying importance which could be obtained from Central America and the East Indies. The reports of those investigations brought out several sources of supply of more or less importance and a number of interesting facts in general. The reports resulted in better supplies of logwood from Haiti; quebracho extract was manufactured in South America and shipped to this country as an extract, thereby saving much tonnage and resulting in cheaper prices. Various woods growing in the Southern part of the United States that had not previously been utilized as dyestuffs were found suitable for that purpose. As supplies became greater, the production of coal tar colors increased also, so that the market began to decline. With the perfection of aniline color manufacturing in this country towards the middle of 1919 the dyestuffs market again sank into the slough in which it has remained ever since.

The use of natural materials, plants, roots, barks, leaves, flowers and berries now seems inevitably doomed owing to the perfection attained in the synthetic colors. Tanning extracts such as sumac, quebracho and divi divi will probably continue to be used for some time to come. Quebracho has only been on the market for about eighteen years now, but so rapidly has it grown in popularity that around 10,000,000 pounds are imported every year into the United States alone. Some of this is in turn exported to China where it has become exceedingly popular during the past six years. Fustics still continue in some demand for use in textile mills, but the past three years has also seen a steady falling off in demand for them. Probably there will remain always a few who will prefer the natural extracts for certain purposes, and to this circumscribed and naturally finite fraction of the trade the once mighty natural dyestuffs industry will be reduced for its supporters.

Ups and Downs of American Flaxseed Crop

Flax was first grown in the United States in Colonial times and for the purpose of furnishing the thrifty New England housewife with the fibre from for home use. Later on, when this household industry gave way before the products of cotton factories, the plant came to be cultivated for its seed. Some flax was grown in New England, more, perhaps, in New York State, and then in Ohio, Indiana and so on as the farming lands of the West were developed. With seed available, even though in small quantities, small mills sprang up locally, but the industry reached no large proportions until importations of Calcutta seed began. This seed was the principal source of supply until well along in the '70s, when the crop from the new lands in the far West and Southwest furnished a good share of the requirements of domestic mills, both of the East and the West, the latter by that time having become numerous, with a large productive capacity. The idea was entertained by them that the future production of seed in the United States would be sufficient to yield all the oil required for this country and that the advantages of crushing seed near the place of growth would drive Eastern mills out of the market, whether they crushed domestic or imported seed. But there were a number of reasons why the results were disappointing to them.

Freights to the seaboard were less on seed than on the oil and cake that it produced, there being little waste in the crushing process, and as the cake had to be shipped to the seaboard for exportation, and the oil also if it was to compete in the Eastern markets, the advantage of location was less than they had anticipated and was not to their material advantage. Still later, when the "new lands" were no longer available and domestic production began to flag, Eastern mills came again to depend upon imported seed, and during the past few years the Western crushers have also largely supplied their requirements by importations.

The South American seed which came into the market a dozen or more years ago has made up the deficiencies in domestic production as well as those of the older foreign sources of supply, which were practically cut off by the war. During the past ten years a number of Western crushers have built mills on the seaboard for the same reason that they originally located near the flaxseed in the West. At least two-thirds of the seed consumed in the United States for several years past has been imported, and the prospect of reducing the proportion by increased domestic production is not favorable.

In 1866 flaxseed sold as high as $4 per bushel, while cake brought $80 per ton. The highest prices reached in the inflation which followed the late "World War" were in July, 1919, when seed sold as high as $6.25 per bushel and cake at about $90 per ton.

1849

WILLIAM ZINSSER & CO., THE FIRST SHELLAC IMPORTERS, BLEACHERS AND MANUFACTURERS IN THE UNITED STATES, ANNOUNCE THEIR 74th YEAR OF CONTINUED SERVICE

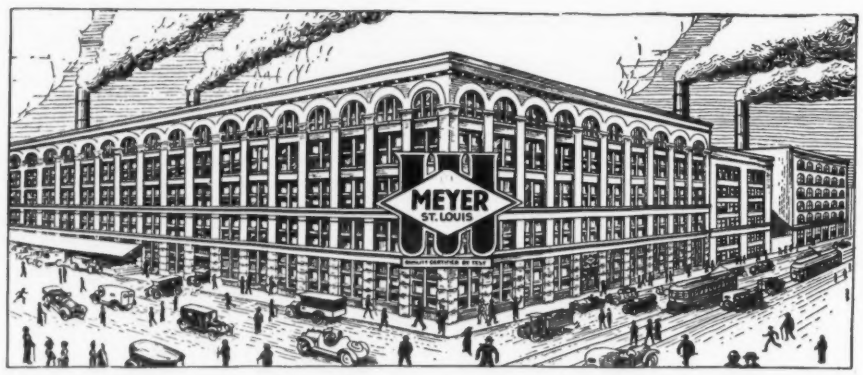
1922

SHELLAC

WILLIAM ZINSSER & CO., INC.

NEW YORK CHICAGO

THREE SCORE and TEN YEARS OLD



MEYER BROTHERS DRUG COMPANY

Established 1852

Saint Louis Missouri

THE LARGEST DRUG HOUSE IN THE WORLD

DRUGS——CHEMICALS
DRUGGISTS SUNDRIES

U. S. Production of Chemicals, Paints and Varnishes, Oils, Dyestuffs and Tanning Materials and Fertilizers by Decades

Production of Chemicals

	1919 Quantities.	1919 Values.	1909 Quantities.	1909 Values.	1899 Quantities.	1899 Values.
Acids—						
Acetic and pyroligneous lbs.	46,821,000	$2,816,300				
Acetic and glacial..lbs.	5,050,000	869,200				
Acetic and anhydride.. lbs.	1,213,200	578,600	56,923,773	$1,336,874	26,660,555	426,892
Arseneous .....lbs.	1,076,000	108,233	*	*		
Boric .....lbs.	14,454,100	1,754,000	5,554,914	295,776	2,684,935	198,212
Citric .....lbs.	3,163,700	3,047,400	2,102,256	777,235	3,886,282	335,297
Hydrochloric (muriatic) tons	147,100	4,312,300	101,607	1,758,335	58 338	1,015,915
Hydrofluoric .....lbs.	4,320,017	440,200	6,842,914	294,379	698,000	34,890
Mixed (sulphuric-nitric) .....tons	46,430	4,426,600	28,591	1,860,787	21,151	1,109,758
Nitric .....tons	14,440	2,976,100	13,663	1,357,098	15,481	1,454,909
Oleic .....lbs.	44,350,600	6,548,600	16,377,063	845,106	*	*
Phosphoric .....lbs.	13,379,500	1,711,100	*	667,505	*	*
Stearic .....lbs.	20,071,445	4,613,862	*	1,143,213	*	*
Sulfuric, anhydride.... tons	68,926	1,373,353	*	*	*	*
Sulphuric (basis 50%).. tons	3,926,270	35,638,200	1,479,200	10,103,425	452,942	4,071,848
Sulfuric, reclaimed.... tons	95,119	803,144	7,069	62,935	*	*
Lactic .....lbs.	5,054,500	781,500	*	*	*	*
Oxalic .....lbs.	2,103,500	545,600	*	*	*	*
Tannic .....lbs.	845,065	746,825	*	*	282,515	135,662
Tartaric .....lbs.	5,313,000	4,262,400	*	*	2,677,004	781,603
All other.....	.....	3,612,500	.....	3,220,206		
Soda and sodium compounds—						
Bicarbonate .....tons	141,560	3,695,400	82,800	1,515,045	68,856	1,332,765
Borax .....tons	29,435	4,627,300	20,154	1,756,922	5,637	502,480
Caustic soda.....tons	319,490	20,494,800	131,612	5,264,887	166,783	3,170,280
Sal soda.....tons	82,830	2,272,770	86,644	1,156,882	63,249	875,243
Soda ash .....tons	1,003,480	31,195,200	646,057	10,362,656	390.653	4,859,656
Sodium, bichromate... tons	22,590	5,337,400	*	*		
bromide .....tons	1,242,443	511,812	*	*		
fluoride .....lbs.	1,364,441	177,420	*	*		
hydroxide .....tons	322,746	20,792,695	131,612	5,264,887		
iodide .....lbs.	29,284	103,868	*	*		
nitrate, refined..tons	10,153	934,643	*	*		
phosphate .....tons	23,351	2,438,917	12,290	540,282	2,340	155,989
sesquicarbonate..tons	37,854	685,500	*	*		
silicate .....tons	286,791	6,052,318	34,170	366,621	32,651	416,005
sulphate (Glauber salts) .....tons	38,330	864,264	46,471	512,464	16,104	160.085
niter cake.....tons	81,170	281,476	27,546	53,693	13,254	37.360
salt cake.....tons	122,908	1,930,139	*	*	40,540	345,277
refined anhydrous.... tons	2,708	221,232	*	*		
thiosulfate (hypo.)... tons	29,678	1,541,087	*	*	5,235	144,868
sulphides .....tons	35,178	2,316,253	7,673	206,450	1,485	32,634
sulfite .....tons	7,209	539,636	*	*		
washing compounds.. tons	861	71,021	*	*		
acetate .....lbs.	2,196,113	165,505	*	*		
benzoate .....lbs.	120,447	68,004	*	*		
citrate .....lbs.	118,417	142,386	*	*		
Potash and potassium compounds—						
From original sources. lbs.	219,474,000	7,215,063	*	*		
Cream of tartar (bitartrate) .....lbs.	4,854,550	2,620,400	15,592,537	2,925,883	10,981,680	2.117,704
Caustic .....lbs.	8,358,834	2,206,008	*	*		
Carbonate, crude...lbs.	48,664,478	2,299,926	*	*		
Chloride, crude....lbs.	144,435,589	4,169,333	*	*		
Sulfate .....lbs.	26,374,661	745,804	*	*		
Acetate .....lbs.	69.995	47,473	*	*		
Bromate, bromide, chlorate, chloride and iodate .....lbs.	3,324,268	1,258,507	*	*		
Carbonate, refined.lbs.	401,140	154,844	*	*		
Citrate .....lbs.	64,088	100,754	*	*		
Iodide .....lbs.	338,678	1,298,980	*	*		
Sulfate, refined....lbs.	90,142	35,008	*	*		
Alums—						
Ammonium alum..tons	3,797	304.018	*	*	*	*
Potash alum.....tons	393	65,745	5,127	155,319	7.100	215,004
Concentrated alum.tons	312,759	15,665,526	77,737	1,312,751	51,508	1,062,547
Other alum.....tons	15,322	1,020,602	55,282	1,554,285	31,125	1,169,025
Aluminum chloride.... tons	7	4,411	*	*	301	12.724
Aluminum hydroxide and oxide, refined... tons	3,847	514,649	*	*		
Ammonia, anhydrous... lbs.	25,329,600	6,642,250	11,969,846	2,544,238	2,443,729	438,157
aqua .....lbs.	30,918,000	2,241,320	20,983,476	839,820	28,282,700	1,258,233
Ammonium chloride (sal ammoniac) .....lbs.	13,212,619	1,565,340	*	*	516,410	26,742
sulfate .....lbs.	32,872,598	1,595,447	*	*	23.295,485	623,537
fluoride .....lbs.	340,156	94,276	*	*	*	*
Cyanogen compounds... lbs.	36,920,611	6,983,875	*	1,941,893		
Other ammonium compounds .....lbs.	.....	2,450,857	*	*		
Bleaching compounds—						
Chlorine .....lbs.	34,392,000	1,425,917	*	*		
Hypochlorites, lime.... tons	88,570	3,418,500	58,401	1,786,846	10,970	462,949
sodium .....tons	37,860	1,362,800				
Peroxide, barium..lbs.	3,131,000	569,483	*	*	*	*
hydrogen .....lbs.	31,515,000	2,257,282	9,926,000	870,541	588,000	63,754
Sulfur bleaches—						
Bisulfite of calcium. lbs.	39,210,000	978,049	31,718,000	226,154	2,922,000	34,486
Sulfur dioxide....lbs.	856,000	99,896	*	*		
Other sulfur.....	.....	509,863	.....	332,187		
All other compounds..	.....	612,085	.....	558,341	.....	65,945
Coal-tar products.....	.....	.....	.....	.....	.....	1,421,720
Dyes .....lbs.	63,402,200	67,598,900				
Color lakes.....lbs.	7,569,900	4,180,000	12,658,770	3,683,553		
Photographic chemicals lbs.	115,500	1,059,300				
Medicinals .....lbs.	2,381,576	8,679,277				
Flavors (saccharine, etc.) .....lbs.	560,800	2,643,698		228,528		
Perfume materials.lbs.	41,400	164,300				
Synthetic phenolic resins .....lbs.	3,534,600	2,310,300	*	*		
Crudes and intermediates .....lbs.	.....	48,825,400	.....	4,057,591	.....	1,421,720
Compressed and liquefied gases—						
Carbon dioxide.....lbs.	59,771,400	6,574,200	47,953,291	2,345,743	12,084,281	719,364
Nitrous oxide.....gals.	22,376,000	515,200	97,175	38,589	*	*
Oxygen ....1000 cu. ft.	1,173,400	16,577,400	3,814	177,409	*	38,170
All other.....	.....	9,487,400	.....	59,756	.....	35,106
Plastics—						
Pyroxylin	.....	30,169,000	.....	5,682,379	.....	1,526,572
Rubber substitutes....	.....	1,456,000				
Viscose, collodion and other	.....	45,852,000	.....	1,790,353	.....	1,664.758
Aldehydes—						
Formaldehyde .....lbs.	19,663,800	3,938,300	3,794,486	363,717		
All other.....lbs.	.....	1,794,300				
Esters—						
Amylacetate .....lbs.	704,600	350,600	1,470,568	442,771	*	*
Ethylacetate .....lbs.	2,251,000	340,000				
Ethyl chloride.....lbs.	248,100	166,200				
Other	.....	1,114,400				
Ether—						
Ethyl (sulphuric)..lbs.	4,111,800	1,103,700				
Other	.....	22,600	1,168,631	190,164	263,238	129,876
Ketones—						
Acetone .....lbs.	6,045,900	767,000	7,761,696	812,978	1,638,715	178,666
Methyl ethyl.....lbs.	1,158,000	167,700				
Other	.....	225,100				
Miscel. organic chemicals—						
Carbon tetrachloride... lbs.	9,811,800	803,600				
Chloroform .....lbs.	1,677,600	516,600	1,869,685	477,538	396,540	98,079
Glycerine, refined..lbs.	64,342,800	20,724,000				
crude .....lbs.	21,304,300	2,961,600	79,677,490	11,752,980	26,512,454	3,096,601
Vanillin .....lbs.	134,700	1,365,900			124,874	113.050
Other	.....	18,813,900				

	1919 Quantities.	1919 Values.	1909 Quantities.	1909 Values.	1899 Quantities.	1899 Values.
Metal salts—						
Antimony .....lbs.	4,045,600	1,190,000				
Arsenic (not lead).....	.....	1,290,800				
Barium sulphate...lbs.	13,626,000	256,100	8,152,000	86.986	2,144,000	47,962
other salts.....lbs.	.....	1,422,500			3,500,000	41,400
Bismuth .....lbs.	502.300	1,235,500				
Calcium, acetate...lbs.	152,634,000	2,682,200	141,478,000	2,118,443	86,826,000	981,286
chloride .....lbs.	149,337,000	1,043,300	25,706,000	63,198	7,079,040	28,357
phosphate .....lbs.	43,910,000	4,709,200			2,510,694	95,307
other salts.....	.....	427,500				
Chromium	.....	1,192,340				
Cobalt	.....	104,970				
Copper sulphate (blue vitriol) .....lbs.	35,288,000	2,825,550	36,546,553	1,531,574	*	*
other salts.....lbs.	.....	410,200	*	*	*	*
Gold .....ozs.	14,844	143,070	42,544	430,944	12,347	120.696
Iron sulphate (copperas) .....lbs.	119,611,000	1,046,900	25,637,092	78.467	27,595,909	199.869
other salts.....	.....	1,694,700	*	*	*	*
Lead arsenate.....lbs.	11,465.800	2,090,300	*	*	*	*
acetate .....lbs.	4,183.600	552,400	*	*	1,296,991	73.190
other salts.....	.....	335,500	*	*	*	*
Magnesium sulphate (epsom salts).....lbs.	58,696,600	1,497,000	21,621,297	189,791	7,559,809	57.966
Magnesium oxide (calcined) .....lbs.	9,031,600	1,176,860				
carbonate (precipitated) .....lbs.	2,064,700	85.700				
other salts.....	.....	788,600				
Mercury .....lbs.	1,143,800	1,775,000				
Nickel .....lbs.	1,059,800	640,200				
Silver, nitrate.....ozs.	3,017,900	2,184,000				
other salts.....ozs.	.....	257,700	.....	727,428	.....	627,252
Strontium .....lbs.	529,450	319,400				
Tin, chloride.....lbs.	8,999,200	2,986,500				
oxide .....lbs.	1,352.600	900,240	10,293,377	1,535,350	6,259,794	603,937
Zinc, chloride.....lbs.	74,089,000	4,349,100				
sulphate .....lbs.	7,325,500	267,000	25,054,213	472,302	9,511.909	353,900
other salts.....	.....	785,540				
Radium ..... mgm.	25,381	2,743,670				
Other chemicals.....	.....	42,636,810				
Blueing	.....	2,803,000	.....	1,074,000	.....	576,000
Wood alcohol—						
Crude .....gals.			6,772,700	1,774,459	4,945,963	1,976.986
Refined .....gals.			6,732,877	3,096,808	3,038,140	2,296,898
Bromine .....lbs.			569,725	57,600	196	125,571
Phosphorus .....lbs.					487,690	150,100
Glucose .....lbs.	.....	80.608,000				
Nitroglycerine .....lbs.					3.618,692	783,299
Chalk						
Talc	.....	2,303,000				
Fuller's earth	.....	2,019,000				
Ethyl alcohol.....						
Magnesite	.....	2,169,000				
Sulfur	.....	17,935,000			12.995	393.548
Beeswax						
Copper						
Zinc dust.....						
Starch .....lbs.	783.513,000	44,403,000				
Grape sugar.....lbs.	157,276,000	9,315,000				

	1889 Quantities.	1889 Values.	1879 Quantities.	1879 Values.	1869 Quantities.	1869 Values.
Acid, sulphuric (basis 50%)	‡692,386	‡$5,198,978	‡154,383	‡$3.661,876		
Soda and sodium compounds .....lbs.	333,124,375	5,432,400	40,259,938	866,560	*	$231,647
Bicarbonate .....tons	30,340	2,009,800				
Borax .....tons	4,000	5,500,000	1,846	277,233		
Caustic soda.....tons	16,501	661,114				
Sal soda.....tons	72,320	1,158,766				
Soda ash.....tons	47,001	1,179,720	20,130	866,560		
Potash and potassium compounds from original sources.....lbs.	5,106,939	197,507	4,571,671	232,643	.....	327,679
Alums .....tons	93,998,008	1,617,710	39,217,725	808,165		
Ammonium sulfate..lbs.	.....	.....	16,575,088	618,485		
Coal tar products.....	.....	687.591				
Aniline colors.....lbs.			80,518	107,292		
Anthracene .....lbs.			344,114	99,242		
Plastics	.....	2,575,736	.....	1.261.540		
Miscel. organic chemicals—						
Glycerine .....lbs.			7,117,825	961,477		
Metal salts—						
Calcium acetate...lbs.	26,778,415	315,430	6,593,009	156,892		
Lead, other salts...lbs.			19,165	371,829		
Magnesium sulphate (epsom salts).....lbs.	9,239,809	75,066				
Mercury .....lbs.	.....	.....	.....	.....	.....	1,027,680
Blueing	.....	457,000	.....	345,000	.....	92,000
Wood alcohol—						
Crude .....gals.	949,733	613.607				
Refined .....gals.	917,605	956,432				
Bromine .....lbs.			404,690	114,752		
Phosphorus .....lbs.			56,292	29,271		
Glucose .....lbs.			151,740,400	4,551,212		
Nitroglycerine .....lbs.			3,039,722	1,830,417	*	225,700
Sulfur .....lbs.			1,200.000	21,000		
Starch .....lbs.			.....	7,477,742	.....	5,994,422

Production of Paints and Varnishes

	1919 Quantities.	1919 Values.	1909 Quantities.	1909 Values.	1899 Quantities.	1899 Values.
Colors (Pigments) "Natural"—						
White lead, dry....lbs.	280,454,977	$6,318,504	85,269,414	$3,924,528	123,070,000	$4,501,058
Zinc oxide.....lbs.	279,321,235	24,082,299			60,235,154	2,212,787
Lithopone .....lbs.	151,200,696	9,757,559	*	*	*	*
Lead oxides .....lbs.	162,474,216	12,748,344	65,767,254	3,798,551	62,386.000	2,862,743
Carbon black and lamp black	.....	6,194,000	.....	1,093,000	.....	460,000
Barytes .....lbs.	39,906,000	455,257	56,254,838	348,470	*	*
Vermilion (true)...lbs.	327,454	237,825	229,558	107,472	*	*
Fine colors (n. e. s.).. lbs.	3,881,210	1,754,054	8,420,120	1,052,443	4,080.902	1,028,754
Chrome yellow.....lbs.	2,370,648	612,310	*	*		
Orange or green...lbs.	2,985,680	666,705	*	*		
Iron buff or other earth colors .....lbs.	189,347,282	3,657,932	213,285,734	1,085,438	34,904,000	367,987
Prussian blue and ultramarine .....lbs.	3,427,204	1,087,472	*	*		
Other dry colors...lbs.	37,447,782	5,480,028	163,713,582	6,523,758	169,828,836	4,483,478
Pulp colors, sold moist. lbs.	30,084,301	3,262,284	28,600,222	1,294,239	20,060.935	861,531
Colors, "Synthetic"—						
Chrome, yellow, orange or green.....lbs.	4,138,472	802,425	*	*		
Iron buff and others.. lbs.	12,834,505	121,010	*	*		
Prussian blue.....lbs.	317,445	187,707	*	*		
Other mineral colors... lbs.	38,263,989	1,176,505	*	*		
Paints in oil—						
In paste form—						
White lead.....lbs.	237,358,672	25,606,609	246,569,970	15,234,539	119,012,000	6,127,960
Zinc oxide.....lbs.	14,342,051	1,770,751				
All other.....lbs.	146,568,395	21,805,869	165,038,353	11,435,937	191,420,000	11,751,240
Ready mixed.....gals.	59,646,832	119,342,319	34,278,989	30,710,063	17,437,311	15,302,481
Varnishes and japans—						
Varnish, oleo resinous, gals.	28,116,160	40,044,863	18,692,527	17,559,898	14,904.251	14,530,159
spirit (not turpentine) gals.	2,974,118	8,105,537	1,273,411	1,502,308	553,432	921,169
dammar and similar turpentine and benzine .....gals.	6,356,387	10,273,773	3,483,994	2,830.534	*	*
pyroxylin .....gals.	500,061	923,464	1,886,541	2,356,692	171,129	187,626
Drying japans and dryers .....gals.	5,940,969	5,558,956	6,638,706	3,165,589	6,564.370	3,085,954
Baking japans and lacquer .....gals.	5,375,220	5,877,629	2,983,285	2,079,927	*	*
Water paints and kalsomine—						
Dry or in paste....lbs.	106,797,920	4,549,113	47,465,715	1,917,047	14,412,653	744,024
Mixed for use.....gals.	359,129	802,805	543,733	64,113	*	*
Putty .....lbs.	*	3,164,254	67,767,348	1,169,683	17,287,323	238,427
Linseed oil—						
Raw .....gals.	30,751,000	47,959,000	2,098,696	1,106,181	*	*
Boiled .....gals.	18,182,000	30,305,000	1,379,025	806,846		
Window glass.....sq. ft.	368,912,209	41,106.000				
Glue	.....	32,084,000	.....	13,718,000	.....	5,389,000
Casein .....lbs.	16,615,076	2,188,787			609,210	30,636

	1889 Quantities.	1889 Values.	1879 Quantities.	1879 Values.	1869 Quantities.	1869 Values.
Colors (Pigments) "Natural"—						
White lead, dry...lbs.	†143,620,471	†$3,297,627	†123,477,890	†$8,777,699	35.000	*
Zinc oxide.....lbs.	17,648,000	695,920	20,121,761	766,337		
Lead oxides.....lbs.	24,662,007	1,238,577				
Carbon black and lamp black .....lbs.	.....	608,800	.....	661,376	.....	$194,000
Barytes .....lbs.	43,143,000	377,939	38,330,000	371,999		

We Maintain Constantly

COMPLETE STOCKS (MORE THAN 750 DIFFERENT ONES)

of the

WORLD'S BOTANICAL DRUGS

COMMON and RARE **CRUDE and POWDERED**

THE BEST IN QUALITY ***THE BEST IN PRICE***

Price Lists, Special Quotations, Information, Statistics with Samples on Request

S. B. PENICK & COMPANY

NEW YORK, N. Y.

MILLS AND WAREHOUSES
JERSEY CITY and ASHEVILLE, N. C.

IMPORT AND EXPORT ***"The Initial Source of Supply"***

We Maintain Sales Offices in All Principal Foreign and U. S. Cities

SINCE 1885

We have manufactured

Fluid Extracts Solid Extracts Pills *and* Tablets

and a full line of strictly U. S. P. Standard Pharmaceuticals

SINCE 1885 we have manufactured private formulas and buyers name goods in our laboratories.

We are the manufacturers of *Phenol Sodique*, which was introduced to the profession fifty years ago.

We issue monthly a price-list, to which we have given the name "POINTERS." Place your name on our list as a subscriber.

Write for copy.

HANCE BROTHERS & WHITE, Inc.

PHARMACEUTICAL CHEMISTS

PHILADELPHIA NEW YORK

	1889 Quantities.	1889 Values.	1879 Quantities.	1879 Values.	1869 Quantities.	1869 Values.
Fine colors (n. e. s.).. lbs.	27,215,687	3,481,349				
Iron buff or other earth colors .....lbs.	138,372,483	1,068,800			[3].....	5,720,758
Other dry colors...lbs.			67,482,415	4,086,821	[4].....	11,211,647
Pulp colors, sold moist lbs.	10,440,763	507,918				
Paints in oil—						
In paste form.....	211,545,504	13,448,569				
Ready mixed.....gals.	12,716,101	12,047,315				
Varnish and japans.gals.	14,539,202	13,987,268			.....	4,991,405
Putty .....lbs.					.....	395,250
Linseed oil.....gals.			.....	15,393,812	6,819,730	8,881,773
Window glass.....bxs.	3,768,884	9,037,187	1,864,734	5,047,313	.....	3,811,308
Glue .....lbs.	27,442,680	2,871,935	2,786,342	4,324,000	.....	1,710,000

Production of Oils

	1919 Quantities.	1919 Values.	1909 Quantities.	1909 Values.	1899 Quantities.	1899 Values.
Naphthas and lighter products—						
Gasoline .....1000 gls.	3,637,045	$679,775,600				
Naphtha .....1000 gls.	392,257	65,077,900				
Benzine .....1000 gls.	64,491	10,015,900	[6]10,806,550	$39,771,959	[6]5,615,554	$15,991,742
Other .....1000 gls.	96,483	11,045,200				
Illuminating oils..... 1000 gls.	2,304,850	235,617,500	[6]33,495,798	94,547,010	[6]25,171,289	74,694,297
Fuel oil—						
Distillates ....1000 gls.	635,900	36,548,100				
Gas oils.....1000 gls.	1,259,943	76,383,500	[6]34,034,577	36,462,883	[6]6,095,224	7,550,664
Residual fuel oils..... 1000 gls.	6,084,025	205,151,100				
Lubricating oils—						
Pale or paraffine..... 1000 gls.	123,273	28,238,300	[6]3,239,230	9,473,975	[6]1,606,783	3,987,037
Red or neutral..... 1000 gls.	210,516	44,583,100	[6]614,884	2,255,924	[6]608,185	2,256,626
Cylinder .....1000 gls.	235,436	59,036,500	[6]1,587,579	9,482,568	[6]517,787	2,984,264
Other .....1000 gls.	249,504	64,384,500	[6]5,304,192	17,071,769	[6]676,163	1,669,287
Liquid asphaltic road oils .....1000 gls.	97,037	4,480,700	[6]1,787,008	2,215,623	[6]596,615	688,455
Residuum or tar..... 1000 gls.	29,163	1,533,500				
Partly refined oils sold for rerunning.1000 gls.	428,347	29,268,900	*.....	*.....	*.....	*.....
Greases—						
Petroleum jelly..... 1000 gls.	10,230	3,750,000				
Lubricating ..1000 gls.	12,599	6,043,800	[6]138,302	1,567,647	[6]572,140	2,465,617
Axle .....1000 gls.	5,318	2,102,900				
Paraffine wax...1000 gls.	69,361	28,348,400	[6]946,830	9,388,812	[6]774,924	7,791,149
Candles	.....	2,939,500	*.....	*.....	*.....	*.....
Asphalt except liquid... tons	927,151	12,500,200	233,328	2,724,752	*.....	*.....
Crude petroleum..... bbls., 42 gls.	357,686,000	866,265,000	120,775,439	152,307,040	52,011,005	80,424,207
Oleo oil.....gls.	20,339,000	30,953,000	19,692,172	16,475,726	19,111,120	11,482,542
Other animal oil, except lard .....gls.	6,721,000	9,153,000	11,343,186	6,350,745	8,240,569	3,438,358
Tallow and oleo stock.. lbs.	242,084,000	36,536,000	202,844,139	13,499,659	*.....	*.....
Fusel oil.....	.....	2,302,000				
Corn oil.....gls.	12,516,000	20,333,000				
Essential oils—						
Peppermint .....lbs.	305,781	519,079	202,550	188,559		
Spearmint .....lbs.	33,460	83,283	*.....	*.....		
Black birch.....lbs.	67,053	102,045	*.....	*.....		
Wintergreen .....lbs.	22,281	68,983	2,166	3,638		
All other.....	.....	238,415	.....	508,512		
Witch-hazel extract..gls.	691,823	419,793	110,260	54,645		

	1889 Quantities.	1889 Values.	1879 Quantities.	1879 Values.	1869 Quantities.	1869 Values.
Naphthas and lighter products .....bbls.	3,189,398	$6,720,712	1,212,626	$1,833,895	.....	$26,942,287
Illuminating oils.....					.....	
Lubricating oils.....			.....	2,925,501	.....	87,500
Greases			.....	13,730,013	.....	6,038,845
Axle			.....	368,048		
Crude petroleum..... bbls. 42 gls.	35,163,513	26,963,340				
Other animal oil except lard .....gls.					.....	9,728,607
Castor oil.....			893,802	790,741	.....	757,700
Fish oil.....					.....	3,993,139
Vegetable, n. e. s.....					.....	772,524

Dyestuffs and Extracts and Tanning Material

	1919 Quantities.	1919 Values.	1909 Quantities.	1909 Values.	1899 Quantities.	1899 Values.
DYESTUFFS AND EXTRACTS						
Dyewood extracts—						
Logwood .....lbs.	32,751,757	$3,292,512	22,317,245	$991,974	39,252,743	$1,485,971
Fustic .....lbs.	3,844,390	355,029	*.....	*.....		
Quercitron .....lbs.	6,745,979	303,472	*.....	*.....		
All other.....lbs.	2,078,827	312,924	*.....	*.....		
Other dyewoods, ground or chipped, and dyestuffs not dyewoods...	.....	435,174	.....	143,720	12,690,931	201,931
Dyeing and tanning extracts .....lbs.	.....	.....	.....	.....		
Dyestuffs—						
Natural .....lbs.					49,019,074	2,658,008
Artificial .....lbs.					11,168,308	2,256,678
Sumac, ground.....					.....	330,337
TANNING MATERIALS					62,012,788	1,259,007
Extracts .....lbs.	.....	.....	.....	.....	28,983,036	529,670
Oak and chestnut..lbs.	504,589,097	18,663,125	266,529,514	4,321,637	26,011,714	563,591
Hemlock .....lbs.	19,705,590	879,366	12,588,078	280,487	4,349,742	103,085
Sumac .....lbs.	4,507,433	253,088	3,148,790	107,456		
Quebracho, spruce, gambier, chrome tanning myrobalans, divi-divi and gallnuts extracts .....lbs.	170,340,336	8,059,912	.....	2,614,391	.....	465,956
Other tanning materials .....lbs.	.....	4,760,740				
Mordaunts—						
Tannic acid.....lbs.	665,772	528,463	.....	598,516	.....	242,653
Other	.....	690,178				
Assistants—						
Turkey red oil.....lbs.	2,477,874	319,050	1,814,506	108,292	2,210,000	114,757
Other	.....	2,526,246	*.....	*.....		
Sizes—						
Dextrines .....lbs.	49,328,560	3,791,372	16,148,931	610,999		
Gums, except rosin.lbs.	8,680,048	634,595				
Rosin .....lbs.	57,055,943	2,888,600				
Other	.....	4,264,074	.....	1,835,046	.....	2,548
All other products.....	.....	3,947,633	.....	5,176,158	.....	1,730,128

	1889 Quantities.	1889 Values.	1879 Quantities.	1879 Values.	1869 Quantities.	1869 Values.
Dyewood extracts—						
Logwood, fustic, quercitron, all other..lbs.	68,537,940	$7,081,806	.....	$5,253,038	.....	$2,053,300
Other dyewoods, ground or chipped, and dyestuffs notdyewoods.lbs.	119,368,971	1,775,278				
Dyeing and tanning extracts .....lbs.	68,537,940	7,081,806				
Sumac ground.....					.....	267,180
Extract, hemlock....lbs.					.....	185,300

Production of Fertilizers

	1919 Quantities.	1919 Values.	1909 Quantities.	1909 Values.	1899 Quantities.	1899 Values.
Ammoniated .....tons	.....	.....	.....	.....	143,648	$2,462,888
Cottonseed meal...tons	230,526	$12,530,636	*.....	*.....	.....	167,410
Fish .....tons	273,252	5,878,634	242,045	3,066,613	.....	183,542
Tankage, n. e. s..tons	689,753	29,949,569	842,557	17,200,611	.....	9,766,735
Ammonium sulphate.tons	135,882	12,659,005	65,592	3,732,112	4,120	186,609
Cyanamid or lime nitrogen .....tons	16,926	1,329,149	*.....	*.....		
Nitrate of soda.....tons			89,846	3,916,320	19,518	709,841
For acid manufac.tons	21,732	1,692,614	*.....	*.....		
For mixed fertilizers.. tons	130,683	10,091,790	*.....	*.....		
Phosphate rock.....tons	2,247,325	17,926,097	1,549,497	8,828,834	787,927	3,554,174
Bone discard.....tons	12,769	252,726	*.....	*.....		
Raw bones.....tons	81,304	3,093,364	*.....	*.....		
Steamed bones.....tons	59,227	1,815,554	*.....	*.....		
Ground bone.....tons	16,471	707,034	*.....	*.....		
Pyrites .....tons	398,602	3,919,050	456,574	2,831,994	288,778	1,466,285
Sulphur or brimstone.... tons	221,558	5,669,331	4,236	68,924	12,728	268,670
Sulphuric acid.....tons	636,632	6,683,061	620,708	3,460,132	231,527	1,355,382
Superphosphate ....tons	1,200,182	18,485,969	532,886	5,175,957	937,008	8,592,360
Basic slag (Thomas).tons	11,394	118,768	*.....	*.....		
Guano .....tons	33,053	893,933	*.....	*.....		
Kainit .....tons	31,145	920,614	347,104	3,008,183	54,700	520,833

	1919 Quantities.	1919 Values.	1909 Quantities.	1909 Values.	1899 Quantities.	1899 Values.
Potash—						
Muriate .....tons	32,900	3,905,784	*.....	*.....		
Sulphate .....tons	79,482	2,753,126	*.....	*.....		
Double manure salts.. tons	17,560	902,843	*.....	*.....		
Nitrate (saltpeter).tons	11,751	1,199,814	*.....	*.....	[7]13,088,680	482,580
All other.....tons	133,299	9,891,893	*.....	*.....	.....	3,098,400
Hardwood ashes....tons	9,085	96,569	*.....	*.....		
All other materials.tons	.....	28,906,150	.....	14,161,497	532,235	8,637,189

	1889 Quantities.	1889 Values.	1879 Quantities.	1879 Values.	1869 Quantities.	1869 Values.
Phosphate rock.....tons	550,245	$2,937,776				
Raw bones.....tons	274,759	$6,620,925				
All other materials.tons	374,339	$5,776,468	.....	$23,650,795		
Manufactured manures.. tons			727,453	19,921,400		
Fertilizer from mineral phosphates .....tons	1,276,708	23,122,448				
not plaster, ground....					.....	5,815,118

* Figures not available.
† Include both "Dry" and "In paste form" after 1899.
‡ Includes all sulfuric acids after 1909.
[1] Ounces.
[2] Tons.
[3] Paints not specified.
[4] Lead and zinc.
[5] 50-gal. barrels.
[6] Barrels.
[7] Pounds.
[8] Saleratus.

America and the International Petroleum Situation

H. FOSTER BAIN
Acting Director, U. S. Bureau of Mines

The future petroleum supply of the United States is so serious a problem that it is today arousing the concern of the public and engrossing the attention of many of our soundest thinkers. It matters little that the present domestic production is about holding its own with consumption, for despite the predictions of those who believe that new fields will always be found to meet the growing needs, it is generally recognized that there must be a limit to relief in this way. In a few years we should doubtless see not only our production declining, but the gap between production and consumption widening at an increasing rate. The problem of conserving our domestic reserves is engaging the attention of the Petroleum Division of the U. S. Bureau of Mines, as well as many State commissions.

The peoples of foreign lands are also learning that petroleum is no longer a luxury, but a necessity. With national spirit reawakened by the war, these peoples are enacting laws protecting petroleum deposits within their borders from exploitation by others than their nationals.

America is the largest consumer as well as at the present time the largest producer of petroleum. So large a part of America's industries are dependent upon petroleum that it is necessary to have assurances of a continued supply. Though the greater portion of our domestic petroleum output is in the hands of Americans, the percentage produced by foreign companies is actually of great importance. In California alone, it is estimated that 8 per cent of the proved oil lands are in foreign hands. California's daily production averages about 300,000 barrels, and of this approximately 25,000 barrels per day is produced by foreign owned companies. Comparing this figure with the daily production of foreign countries, it is seen that the output in foreign companies in California alone exceeds the output of all but two of these countries—Dutch East Indies and Persia.

Our experience in attempting to obtain foreign concessions has not been entirely unsuccessful, but it has been more illuminating than gratifying. The few recent acquisitions of foreign oil rights have been coupled, in some cases, with restrictions that might well become confiscatory, and in others have been overshadowed many times by the obstacles that have appeared in the way.

American interests now have foreign holdings in Mexico, Canada, Colombia, Venezuela, Peru, Bolivia, Ecuador, Roumania, Palestine, Abyssinia, Portugal, West Africa and the Netherlands East Indies. Upon certain of these holdings —particularly those in Roumania, Palestine and Netherlands East Indies —development work is either suspended or made impossible or the rights themselves rendered precarious. Outside of Mexico, and possibly Peru and Roumania, the few scattered holdings which have been acquired can only be looked upon as the beginning of what must be won in order that the future needs of America may be supplied.

Probably the outstanding feature in the foreign situation today is the attitude of the British, French and Netherlands governments, all of which have adopted restrictive policies toward aliens, and at the same time have adopted the practice of granting monopolistic contracts and of aiding by governmental backing and participation, certain domestic combines.

The Anglo-Persian Oil Co., in which the British government takes a strong interest, is expanding at an amazing rate. Recent acquisitions of refinery and distributing station sites indicate the company's determination to become a complete unit within itself; while its aggressive entrance into the French, Australian, Roumanian, Hungarian and Newfoundland fields definitely marks it as a leading contender in world competition.

The Royal Dutch company practically controls the Netherlands colonial petroleum reserves. The bill proposing a monopolistic contract to a Royal Dutch subsidiary, the Bataapsche Petroleum Maatschappy, covering the Djambi concessions in central Sumatra, is an indication of the attitude of the Netherlands Government.

The Mexican situation has long been a perplexing one, not so much because of the difficulty in obtaining holdings, but because of the hazards in operating due to the political situation and the disputes resulting from decrees and changing laws.

Recently an American company operating in Roumania has also suffered from governmental measures which the company claims are confiscatory in character, and which seem to show that, to insure America of a foreign supply, the companies operating in foreign fields must be encouraged by the support of a fair but firm government.

While the United States should never permit herself to be placed at an economic disadvantage or in a position of insecurity, it is out of keeping with the American spirit to pursue a narrow policy of exclusion and selfish interest. The United States has proved her willingness to do her bit for civilization by supplying petroleum through times of greatest stress, and has proved her fair-mindedness by allowing foreign companies to participate in the development of her resources. She is now calling upon other governments to recognize this spirit by adopting a fair attitude towards Americans.

During the recent war, the importance and need for petroleum was forcibly impressed upon all warring nations, and it was natural to expect that Britain, France and other foreign countries would set about finding a satisfactory source of crude oil. Such would be the policy of any far-sighted nation, and the American nation should not be apprehensive over this fact.

In amicable agreement with these nations, however, America should carry forward an active campaign for developing petroleum production over the whole globe, to satisfy the increasing needs of the world. The world calls for petroleum, and the American people, the American Government and the American petroleum industry do have every right to protest against a policy which excludes them from any field.

The dominant need is oil, and whether this is produced by an American, a British or a Dutch company is less important. We ask only for the same rights in all fields that are allowed nationals in developing American oil resources. Unless these rights are granted, the Government of the United States should adopt a firm policy which will secure for American companies a fair and equal opportunity. We ask for nothing more.

Thinking people must realize that the petroleum problem is a world problem, and one of such importance that a local solution is doomed to failure. It would seem that the matter is one worthy of international co-operation; and this co-operation should embrace, in addition to matters of supply, the conservation and efficient production, transportation, manufacture, distribution and utilization of petroleum and its products. With an army of trained men and almost unlimited capital, America is waiting to take her place in fulfilling an international petroleum agreement. The world will again find America seeking a chance to do her bit for civilization.

CHAS. PFIZER & CO.

INCORPORATED

ESTABLISHED 1849

Manufacturing Chemists

NEW YORK

Citric Acid, Crystals Granulated and Powdered
Tartaric Acid, Crystals Granulated and Powdered
Cream Tartar, Powdered and Crystals
Rochelle Salt, Powdered and Crystals
Borax, Crystals Granulated and Powdered
Boric Acid, Crystals Granulated and Powdered

Camphor Refined
Bismuth Subnitrate
Minor Bismuth Preparations
Seidlitz Mixture
Potassium Iodide, Crystals and Granulated
Iodoform
Iodine Resublimed
Chloroform
Potassium Citrate
Sodium Citrate
Tartar Emetic
Tannin

Calomel
Corrosive Sublimate
Red Precipitate
White Precipitate
Strychnine
Iron and Ammon. Cit., U. S. P.
Iron and Ammon. Cit., Green Scales
Other Scale Salts of Iron
Ferric Ammonium Oxalate
Ferric Potassium Oxalate
Ferric Sodium Oxalate
Ferric Oxalate Scales

Also a general line of Chemicals for Medicinal, Photographic, Blue Print and various Technical Purposes

WORKS AND LABORATORIES, BOROUGH OF BROOKLYN, NEW YORK

High and Low Price Studies of Oils, Drugs, Chemicals, 1871-1921

In the following series of tables will be found a comparison of the prices prevailing in the New York Markets for items customarily carried in the Wholesale Prices Current list of the OIL, PAINT AND DRUG REPORTER. In the tables, the first quotation is the earliest one of which the Reporter has any record, followed by the quotation on or about October 18, in ten-year periods, starting with 1871. The highest price reached after 1913 is indicated by the month and year in which it was attained.

ACIDS

(See Chemical Section.)

BOTANICALS

Balm of Gilead

On December 20, 1899, the price was 35c.; October 18, 1901, 32c.; 1911, 25@26c.; 1913, 24@26c.; 1919, March, $3.60.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.50	$1.50	$1.40	$1.00
February	1.35	1.35	.95	.95
March	1.35	1.35	.95	.90
April	1.35	1.35	.90	.90
May	1.35	1.25	.90	.90
June	1.25	1.10	.80	.75
July	1.25	1.10	.75	.75
August	1.35	1.35	.75	.70
September	1.40	1.35	.70	.70
October	1.60	1.60	.70	.65
November	1.60	1.60	.65	.65
December	1.45	1.40	.60	.60
Year	1.60	1.10	1.40	.60

Ergot, Spanish

On November 22, 1871, the price was 80c.; October 18, 1881, 60@65c.; 1891, 38@43c.; 1901, 42@45c.; 1911, $1.25@1.30; 1913, $1.25@1.30; 1919, December, $5.

	Per pound			
	1920. Spanish.		1921. Spanish.	
	H.	L.	H.	L.
January	$5.00	$5.00	$1.10	$0.75
February	5.50	5.25	.65	.65
March	5.50	5.00	.80	.65
April	5.00	5.00	.90	.90
May	6.50	5.50	1.25	1.00
June	6.50	6.50	1.25	1.10
July	6.50	6.00	1.25	1.10
August	6.00	5.00	1.25	1.25
September	5.00	3.50	1.30	1.25
October	3.50	2.65	1.20	1.12
November	2.65	1.75	1.20	1.10
December	1.25	1.10	1.07	1.07
Year	6.50	1.10	1.30	.65

Lycopodium

On February 25, 1874, the price was 70c.; October 18, 1881, 32@34c.; 1891, 33@36c.; 1901, 52@54c.; 1911, 48@50c.; 1913, 42@44c.; 1921, February, $4.75.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.50	$2.25	$3.85	$3.75
February	2.50	2.25	4.25	3.85
March	2.50	2.25	4.75	4.35
April	2.25	2.00	4.25	3.90
May	2.25	2.15	3.90	3.75
June	2.25	2.25	3.75	3.70
July	3.00	2.25	3.65	3.60
August	4.50	2.00	3.50	3.25
September	4.50	4.40	3.25	2.35
October	4.40	4.00	2.75	1.75
November	4.00	3.75	1.75	1.60
December	3.75	3.75	1.50	1.35
Year	4.50	2.00	4.75	1.35

Manna, Flake

On October 18, 1871, the price on large flake was $1.40; small flake, 83@85c.; 1881, large flake, 95c.@$1; small flake, 38@40c.; 1891, large flake, 75@80c.; small flake, 30@35c.; 1901, large flake, 80c.@$1; small flake, 30@35c.; 1911, large flake $1; small flake, 75@80c.; 1913, large flake, 85@90c.; small flake, 55@57c.; 1919, large, April, $1.30; small, October, 1916, $1.65.

	Per pound			
	1920. Large.		1920. Small.	
	H.	L.	H.	L.
January	$0.75	$0.75	$0.58	$0.58
February	.80	.65	.58	.50
March	.65	.65	.50	.50
April	.65	.63	.50	.50
May	.66	.63	.50	.48
June	.66	.66	.48	.45
July	.66	.66	.45	.45
August	.70	.66	.45	.45
September	.80	.75	.46	.45
October	.85	.80	.60	.55
November	.85	.85	.60	.55
December	.90	.85	.55	.52
Year	.90	.63	.60	.45

	Per pound			
	1921. Large.		1921. Small.	
	H.	L.	H.	L.
January	$0.90	$0.85	$0.52	$0.45
February	.85	.85	.45	.45
March	.85	.85	.45	.45
April	.85	.85	.45	.45
May	.95	.85	.41	.40
June	.85	.85	.41	.41
July	.85	.75	.41	.39
August	.73	.73	.50	.50
September	.73	.73	.50	.50
October	.73	.73	.50	.50
November	.73	.73	.50	.50
December	.85	.85	.50	.50
Year	.95	.73	.52	.39

Nux Vomica, Buttons

On November 22, 1871, the price for powder was 18@21c.; October 18, 1881, 2¼c.; 1891, 3¼@4¼c.; 1901, 2¾@3c.; 1911, 2½@3c.; 1913, 2¾@3c.; 1920, June, 18c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.08½	$0.08½	$0.13	$0.13
February	.09	.08½	.12	.12
March	.13	.09	.12	.11
April	.13	.13	.13	.12
May	.14	.14	.14	.13½
June	.14	.14	.18	.18
July	.14	.14	.14	.11
August	.14½	.14½	.17	.16
September	.14½	.14½	.10	.10
October	.14½	.14½	.10	.10
November	.14½	.14½	.10	.10
December	.13	.13	.10	.10
Year	.14½	.08½	.18	.10

Tamarinds

On July 20, 1881, the price was $1.75; October 18, 1881, $2; 1891, 1901, $2.05@2.25; 1911, $2.50@2.75; 1913, $2.45@2.50; 1919, November, $7.

	Per keg			
	1920.		1921.	
	H.	L.	H.	L.
January	$6.15	$6.15	$5.00	$3.00
February	6.15	6.15	5.00	5.00
March	6.15	6.15	5.00	5.00
April	6.15	6.15	5.00	4.50
May	6.15	6.15	4.50	4.50
June	6.15	6.15	4.50	4.50
July	6.15	5.50	4.50	3.00
August	5.50	5.50	3.00	3.00
September	3.50	3.50	3.00	3.00
October	3.50	3.50	3.00	3.00
November	3.50	3.50	3.00	3.00
December	5.50	3.00	3.00	3.00
Year	6.15	3.00	5.00	3.00

BALSAMS

Copaiba, Para

On October 18, 1871, the price was 77½@80c.; 1881, 52½@54c.; 1891, 52½@55c.; 1901, 45@50c.; 1911, 60@85c.; 1913, 48@50c.; 1919, March, 75c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.50	$0.50	$0.30	$0.25
February	.55	.50	.24	.24
March	.55	.55	.28	.24
April	.55	.55	.28	.28
May	.55	.52½	.28	.27
June	.52½	.52½	.27	.27
July	.52½	.52½	.27	.27
August	.52½	.50	.26	.26
September	.50	.47½	.26	.26
October	.47½	.40	.26	.26
November	.40	.40	.26	.26
December	.35	.30	.26	.26
Year	.55	.30	.30	.24

Copaiba, South American

On October 18, 1871, the price was 77½@80c.; 1881, 52½@54c.; 1891, 60c.; 1901, 35@40c.; 1911, 38@45c.; 1913, 44@48c.; 1918, January, 97½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.60	$0.60	$0.40	$0.38
February	.65	.60	.35	.35
March	.65	.65	.35	.35
April	.65	.65	.35	.33
May	.65	.62½	.33	.33
June	.62½	.62½	.33	.33
July	.62½	.62½	.33	.33
August	.62½	.60	.32	.32
September	.57½	.57½	.32	.30
October	.57½	.55	.30	.30
November	.55	.50	.30	.30
December	.45	.40	.30	.30
Year	.65	.40	.40	.30

Fir, Canada

On November 22, 1871, the price was $3@3.50; October 18, 1881, $2.25; 1891, $1.70@1.90; 1901, $3.65@3.75; 1911, $4.10@4.25; 1913, $9.50@10; 1920, April, $16.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$12.50	$12.50	$14.00	$14.00
February	14.75	12.50	14.00	14.00
March	13.75	13.75	14.00	14.00
April	16.00	14.50	14.00	14.00
May	16.00	16.00	14.00	14.00
June	16.00	16.00	14.00	14.00
July	16.00	16.00	14.00	13.00
August	16.00	16.00	13.00	12.00
September	16.00	14.00	12.00	12.00
October	14.00	14.00	12.00	12.00
November	14.00	14.00	12.00	12.00
December	14.00	14.00	12.00	12.00
Year	16.00	12.50	14.00	12.00

Fir, Oregon

On March 26, 1873, the price was $3.50; October 18, 1881, nominal; 1891, $1@1.10; 1901, 75@85c.; 1911, 80@90c.; 1913, $1.30@1.50; 1919, December, $1.90.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.80	$1.80	$1.70	$1.70
February	1.80	1.80	1.70	1.70
March	1.80	1.80	1.60	1.60
April	1.80	1.75	1.60	1.60
May	1.75	1.75	1.75	1.60
June	1.75	1.75	1.55	1.55
July	1.85	1.85	1.55	1.45
August	1.85	1.85	1.45	1.45
September	1.85	1.85	1.45	1.45
October	1.85	1.85	1.45	1.45
November	1.85	1.85	1.45	1.45
December	1.70	1.60	1.45	1.45
Year	1.85	1.60	1.75	1.45

Peru

On October 18, 1871, the price was $3.90; 1881, $2.75@3; 1891, $1.20@1.40; 1901, $1.30@1.40; 1911, $1.50@1.90; 1913, $1.50@1.60; 1920, February, $5.75.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.25	$5.00	$1.75	$1.50
February	5.75	5.25	1.50	1.45
March	5.75	5.50	1.70	1.45
April	5.75	5.50	1.60	1.60
May	5.50	5.50	1.60	1.50
June	5.30	5.20	1.50	1.35
July	5.10	5.00	1.40	1.35
August	4.75	4.00	1.40	1.40
September	3.75	3.50	1.45	1.40
October	3.50	3.00	1.40	1.40
November	3.00	2.00	1.45	1.45
December	2.00	1.75	1.45	1.40
Year	5.75	1.75	1.75	1.35

Tolu

On October 18, 1871, the price was 80c.; 1881, 65@70c.; 1891, 27@30c.; 1901, 33@35c.; 1911, 50@60c.; 1913, 80@85c.; 1919, October, $1.75.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.75	$1.50	$0.50	$0.50
February	1.60	1.50	.50	.45
March	1.60	1.35	.45	.40
April	1.35	1.35	.40	.35
May	1.40	1.35	.35	.34
June	1.30	1.25	.34	.34
July	1.00	1.00	.30	.30
August	1.00	.90	.30	.30
September	.85	.80	.30	.30
October	.80	.75	.30	.30
November	.75	.60	.30	.30
December	.55	.50	.30	.30
Year	1.75	.50	.50	.30

BARKS

Black Haw, Bark of Root

On December 20, 1897, the price was 7½@8¼c.; October 18, 1901, 10¼@12c.; 1911, 19@20c.; 1913, 16@18c.; 1918, December, 65c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.60	$0.60	$0.48	$0.48
February	.60	.60	.48	.48
March	.60	.60	.48	.42
April	.58	.58	.42	.40
May	.58	.54	.40	.38
June	.54	.54	.35	.32
July	.50	.50	.32	.32
August	.50	.50	.28	.28
September	.49	.49	.28	.28
October	.49	.49	.28	.28
November	.49	.49	.28	.26
December	.49	.48	.26	.26
Year	.60	.48	.48	.26

Calisaya

On February 25, 1874, the price was $1.15; October 18, 1881, $1.50@1.75; 1891, 15@65c.; 1901, 22@25c.; 1911, 18@28c.; 1913, 18@28c.; 1918, June, 85c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.65	$0.65	$0.40	$0.40
February	.65	.65	.39	.39
March	.65	.55	.39	.30
April	.55	.55	.30	.30
May	.55	.55	.45	.30
June	.55	.55	.45	.45
July	.55	.55	.45	.25
August	.55	.55	.25	.25
September	.55	.55	.25	.22
October	.55	.40	.22	.20
November	.40	.40	.20	.20
December	.40	.40	.20	.20
Year	.65	.40	.45	.20

Cinchona, Red Quills

On November 22, 1871, the price was 90c.@$1; October 18, 1881, 15c.@$1.75; 1891, 25@35c.; 1901, 20@25c.; 1911, 18@20c.; 1913, 20@28c.; 1918, May, $1.25.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.90	$0.75	$0.45	$0.45
February	.75	.70	.45	.45
March	.70	.70	.45	.38
April	.70	.70	.35	.35
May	.70	.70	.35	.30
June	.70	.70	.30	.30
July	.70	.60	.30	.30
August	.65	.60	.30	.25
September	.65	.65	.35	.35
October	.60	.55	.35	.35
November	.50	.45	.35	.35
December	.45	.45	.37	.37
Year	.90	.45	.45	.25

Condurango

On November 22, 1871, the price was $6@8; October 18, 1896, 18c.; 1901, 14@16c.; 1911, 17@18c.; 1913, 12½@14c.; 1917, September, 14c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11	$0.10½	$0.11	$0.11
February	.11	.11	.11	.11
March	.11	.11	.11	.11
April	.11	.11	.11	.11
May	.11	.11	.11	.10
June	.11	.11	.10	.10
July	.11	.11	.10	.10
August	.11	.11	.10	.10
September	.11	.11	.10	.10
October	.11	.11	.10	.10
November	.11	.11	.10	.10
December	.11	.11	.10	.10
Year	.11	.10½	.11	.10

Cascara Sagrada

On March 31, 1880, the price was 40@50c.; October 18, 1891, 5@6c.; 1901, 5@7c.; 1911, 9@10½c.; 1913, 7¾@10c.; 1918, September, 19c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.15½	$0.15½	$0.16	$0.15
February	.15½	.15¼	.15	.15
March	.15½	.15	.15	.13½
April	.15½	.15½	.13½	.13½
May	.15½	.15½	.12½	.12
June	.16	.15½	.12	.12
July	.17	.16½	.12	.10
August	.17	.16	.10	.10
September	.16	.16	.10	.10
October	.16	.15½	.11	.11
November	.16	.16	.11	.11
December	.16	.16	.11	.11
Year	.17	.15	.16	.10

Cottonroot

On August 25, 1880, the price was 8@9c.; October 18, 1881, 8@9c.; 1906, 8¼@10c.; 1911, 22@23c.; 1918, 6@7c.; 1920, August, 80c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.25	$0.50	$0.40
February	.30	.25	.40	.40
March	.30	.26	.35	.25
April	.30	.30	.25	.20
May	.42	.35	.20	.18
June	.65	.50	.17	.17
July	.75	.70	.17	.16
August	.80	.75	.16	.16
September	.75	.75	.16	.16
October	.75	.75	.16	.16
November	.75	.75	.16	.16
December	.75	.50	.14	.14
Year	.80	.25	.50	.14

Elm, Bundles, Selected

On February 18, 1874, the price was 16c.; October 8, 1881, 12½@14c.; 1891, 12½@14c.; 1901, 12c.; 1911, 17@20c.; 1913, 17@21c.; 1920, October, 90c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.75	$0.65	$0.80	$0.80
February	.70	.68	.75	.72
March	.75	.68	.70	.65
April	.85	.85	.65	.60
May	Nominal		.60	.60
June	.75	.75	.55	.45
July	.80	.75	.40	.33
August	.80	.75	.33	.31
September	.80	.75	.31	.30
October	.90	.85	.30	.30
November	.90	.85	.32	.32
December	.85	.80	.32	.30
Year	.90	.65	.80	.30

Lemon Peel

On October 18, 1911, the price was 5@6c.; 1913, 6¼@7c.; 1918, January, 10c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.10	$0.10	$0.10	$0.10
February	.10	.10	.10	.10
March	.10	.10	.10	.10
April	.10	.10	.10	.10
May	.10	.10	.10	.10
June	.10	.10	.10	.10
July	.10	.10	.10	.10
August	.10	.10	.10	.10
September	.10	.10	.10	.10
October	.10	.10	.09	.09
November	.10	.10	.09	.09
December	.10	.10	.09	.09
Year	.10	.10	.10	.09

Orange Peel, Bitter Curacao

On November 22, 1871, the price was 8@9c.; October 18, 1881, 13@14c.; 1891, 4¼@10c.; 1901, 3@4c.; 1911, 4@5c.; 1913, 4@5c.; 1919, August, 21c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.09	$0.09	$0.12	$0.12
February	.10	.10	.12	.12
March	.10	.10	.12	.11
April	.11	.10	.11	.11
May	.14	.11	.11	.11
June	.14	.14	.11	.08
July	.14	.14	.08	.08
August	.14	.14	.07	.07
September	.13	.13	.07	.06
October	.13	.13	.06	.06
November	.13	.13	.06	.06
December	.13	.12	.06	.06
Year	.14	.09	.12	.06

Prickly Ash

On April 3, 1878, the price of crushed was 13c.; October 18, 1881, 10@16c.; 1891, 9@10c.; 1901, 8@10c.; 1911, 28@35c.; 1913, 14@16c.; 1920, December, 28c.

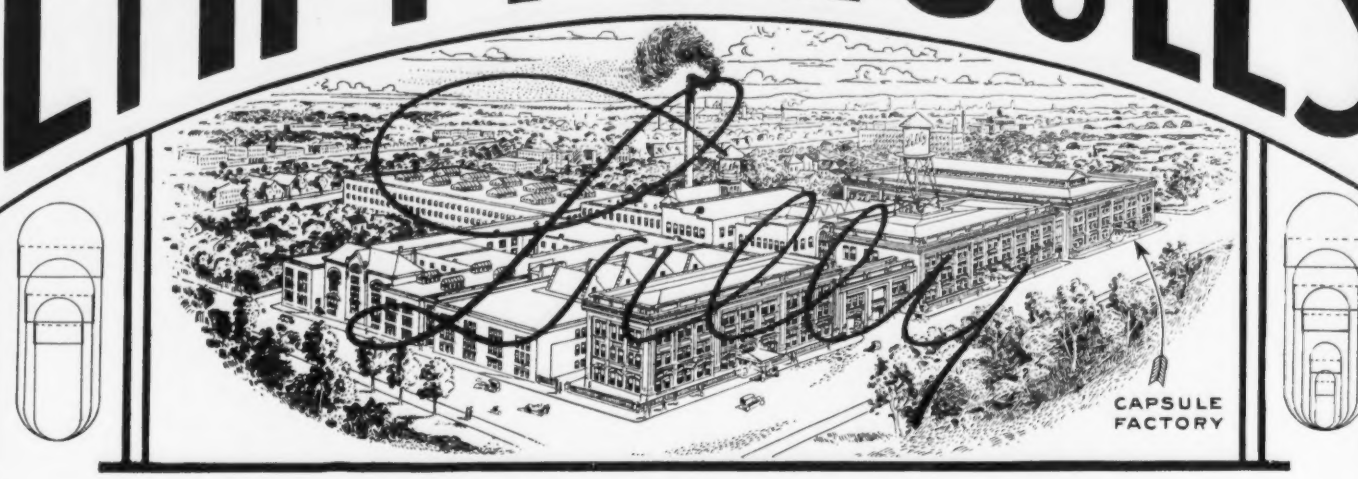
	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.23	$0.23	$0.28	$0.24
February	.23	.22	.28	.28
March	.22	.22	.28	.26
April	.22	.22	.26	.25
May	.22	.22	.22	.22
June	.22	.22	.22	.22
July	.22	.22	.16	.16
August	.22	.22	.16	.16
September	.22	.22	.16	.16
October	.22	.22	.16	.16
November	.24	.24	.16	.16
December	.28	.24	.16	.15
Year	.28	.22	.28	.15

Sassafras, Ordinary

On November 22, 1871, the price was 5@5½c.; October 18, 1881, 6@6½c.; 1891, 8@10c.; 1901, 6½@10c.; 1911, 12@14c.; 1913, 11@13c.; 1919, December, 49c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.49	$0.49	$0.23	$0.23
February	.49	.45	.23	.23
March	.45	.33	.23	.23
April	.33	.33	.23	.23
May	.33	.33	.23	.23
June	.33	.33	.23	.22
July	.33	.28	.22	.22
August	.28	.25	.22	.15
September	.25	.25	.15	.15
October	.25	.25	.15	.15
November	.25	.25	.15	.15
December	.25	.23	.15	.15
Year	.49	.23	.23	.15

EMPTY CAPSULES



THROUGHOUT the civilized world wherever capsules are used, the reputation of Empty Gelatin Capsules bearing the Lilly Label is the same—a truly perfect capsule, a highly satisfactory product.

Lilly Empty Gelatin Capsules represent the highest attainment in the art of capsule making.

A modern plant fully equipped with automatic machinery insures quantity production—over eight hundred million annually—of the highest quality.

At no stage in the process of manufacturing, counting and packaging are Lilly Empty Gelatin Capsules touched by the hands.

Each Lilly Capsule is just like every other capsule in the box.

CLEAR	FIRM
CLEAN	UNIFORM
SOLUBLE	THIN-WALLED

Supplied uncolored and pink. Prices on request.

Eli Lilly & Company

INDIANAPOLIS, U. S. A.

Soap, Whole

On April 2, 1878, the price was 8c.; October 18, 1881, 4½@6½c.; 1891, 8½@9c.; 1901, 3½@4c.; 1911, 6@6½c.; 1913, 8½@9½c.; 1919, August, 16c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.13½	$0.13½	$0.12	$0.11½
February	.13½	.13½	.10½	.10½
March	.13½	.13½	.10½	.10½
April	.13½	.13½	.10½	.10½
May	.13½	.13½	.10½	.10½
June	.13½	.13½	.07	.07
July	.14	.13½	.07	.07
August	.14	.14	.07	.07
September	.14	.14	.07	.07
October	.14	.13½	.07	.07
November	.13½	.13	.07	.07
December	.13	.12	.07	.06
Year	.14	.12	.12	.06

Soap, Cut

On April 2, 1878, the price was 3c.; October 22, 1886, 6@7c.; 1911, 8@8½c.; 1913, 10c.; 1920, May, 26c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.21	$0.21	$0.18	$0.18
February	.23	.21	.16	.16
March	.25	.23	.15	.14
April	.24	.24	.14	.13
May	.26	.24	.12	.12
June	.26	.25	.12	.12
July	.25	.25	.12	.11
August	.25	.25	.11	.11
September	.25	.25	.10½	.10½
October	.25	.25	.10½	.10½
November	.25	.25	.11	.10
December	.25	.18	.10	.09
Year	.26	.18	.18	.09

Soap, Crushed

On April 2, 1878, the price was 16c.; October 18, 1881, 8@8½c.; 1891, 9@10c.; 1901, 5@6c.; 1911, 7@7½c.; 1913, 10c.; 1919, August, 23c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.21	$0.18	$0.16	$0.16
February	.21	.21	.14½	.14½
March	.21	.21	.14½	.14½
April	.20	.20	.14½	.13½
May	.21	.20	.13½	.12½
June	.21	.20	.12	.12
July	.20	.20	.12	.12
August	.20	.20	.12	.10
September	.20	.20	.09½	.09½
October	.20	.20	.09½	.09½
November	.21	.20	.10	.09
December	.20	.16	.09	.09
Year	.21	.16	.16	.09

Wahoo, Bark of Root

On December 20, 1897, the price was 19@20c.; October 18, 1901, 16@20c.; 1911, 40@42c.; 1913, 36@50c.; 1920, December, 90c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.85	$0.75	$0.90	$0.90
February	.85	.85	.90	.90
March	.85	.85	.90	.80
April	.85	.85	.80	.75
May	.85	.85	.75	.75
June	.85	.75	.60	.59
July	.80	.70	.55	.55
August	.85	.80	.55	.55
September	.85	.85	.55	.55
October	.85	.75	.55	.55
November	.75	.75	.58	.55
December	.90	.75	.60	.57
Year	.90	.70	.90	.55

Wahoo, Bark of Tree

On December 20, 1897, the price was 14@15c.; October 18, 1901, 14@15c.; 1911, 15@18c.; 1913, 15@18c.; 1920, April, 40c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.35	$0.35	$0.35	$0.35
February	.35	.35	.35	.35
March	.35	.35	.35	.35
April	.40	.40	.35	.35
May	.40	.40	.35	.30
June	.40	.40	.30	.28
July	.40	.40	.28	.28
August	.40	.40	.28	.28
September	.40	.40	.28	.28
October	.40	.40	.28	.28
November	.40	.40	.28	.28
December	.40	.35	.28	.28
Year	.40	.35	.35	.28

Wild Cherry, Thick, Unrossed

On April 28, 1875, the price was 6c.; October 18, 1881, 5½c.; 1901, 5½c.; 1911, 6c.; 1913, 6c.; 1919, February, 27c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.09	$0.09	$0.07	$0.07
February	.08	.08	.07	.07
March	.08	.07	.07	.07
April	.07	.07	.07	.07
May	.07	.07	.07	.07
June	.07	.07	.07	.06
July	.07	.07	.06	.06
August	.07	.07	.06	.06
September	.07	.07	.06	.06
October	.07	.07	.06	.06
November	.07	.05	.06	.06
December	.07	.07	.06	.06
Year	.09	.05	.07	.06

Wild Cherry, Thin, Unrossed

On April 28, 1875, the price was 7c.; October 18, 1881, 9c.; 1901, 7½c.; 1911, 9c.; 1913, 9c.; 1919, January, 35c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.13	$0.13	$0.10½	$0.10½
February	.13	.12	.10½	.10½
March	.12	.11½	.10½	.10½
April	.11½	.11½	.10½	.10½
May	.11½	.11½	.10½	.10
June	.11½	.09½	.11	.10
July	.09½	.09½	.11	.11
August	.09½	.09½	.11	.11
September	.09½	.09½	.10	.10
October	.09½	.09½	.10	.10
November	.10½	.07½	.09	.09
December	.10½	.10½	.09	.09
Year	.13	.07½	.11	.09

BEANS

Calabar

On February 16, 1881, the price was 40c.; October 18, 1881, 40c.; 1891, 16@18c.; 1901, 8@12c.; 1911, 37@60c.; 1913, 25@30c.; 1918, October, 75c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.40	$0.38	$0.20	$0.20
February	.40	.40	.20	.20
March	.35	.35	.20	.20
April	.35	.35	.20	.20
May	.35	.32½	.20	.20
June	.32½	.30	.20	.20
July	.30	.29	.20	.20
August	.29	.29	.20	.20
September	.29	.29	.20	.20
October	.29	.25	.20	.20
November	.25	.25	.20	.20
December	.25	.20	.18	.18
Year	.40	.20	.20	.18

Tonka, Angostura

On November 22, 1871, the price was 55@60c.; October 18, 1881, $2.50@3.25; 1891, $1.80@2.20; 1901, 80@85c.; 1911, $5.25@5.50; 1913, $1.75@2; 1919, July, $1.75.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.75	$1.75	$1.50	$1.50
February	1.75	1.75	1.50	1.40
March	1.75	1.75	1.40	1.30
April	1.75	1.75	1.30	1.30
May	1.75	1.75	1.30	1.30
June	1.75	1.75	1.30	1.30
July	1.75	1.75	1.30	1.30
August	1.75	1.75	1.30	1.25
September	1.75	1.75	1.35	1.25
October	1.60	1.50	1.35	1.35
November	1.50	1.50	1.35	1.35
December	1.50	1.50	1.35	1.35
Year	1.75	1.50	1.50	1.25

Vanilla, Mexican, Whole

On November 22, 1871, the price was $14@16; October 18, 1881, $5@15; 1891, $4@8; 1901, $8@13.50; 1911, $4@5; 1913, $3.75@5; 1917, April, $5.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$4.50	$4.50	$3.75	$3.50
February	4.50	4.50	3.50	3.50
March	4.50	4.50	3.50	3.50
April	4.50	4.50	3.50	3.50
May	4.50	4.50	3.50	3.50
June	4.50	4.50	3.50	3.50
July	4.50	4.50	3.75	3.50
August	4.50	4.50	4.75	3.75
September	4.50	4.50	5.00	4.50
October	4.50	4.25	5.50	5.00
November	4.25	4.25	6.00	6.00
December	4.25	3.75	7.00	6.00
Year	4.50	3.75	7.00	3.50

Twenty-two Years' Prices

	Per pound— H.	L.
1921	$7.00	$3.50
1920	4.50	3.75
1919	4.50	4.25
1918	4.75	4.25
1917	5.00	4.50
1916	5.00	3.75
1915	3.75	2.50
1914	5.00	3.50
1913	4.00	3.62½
1912	5.00	3.50
1911	4.00	2.75
1910	3.37½	2.75
1909	3.25	2.75
1908	4.25	3.00
1907	4.25	2.75
1906	2.75	2.75
1905	3.50	2.75
1904	5.00	3.75
1903	6.50	5.00
1902	6.75	4.75
1901	9.00	6.75
1900	11.00	9.00

Vanilla, Bourbon, Whole

On April 14, 1880, the price was $5@8; October 18, 1881, $6@10; 1891, $3@6; 1901, $4.75@8.50; 1911, $3.85@4.50; 1913, $3@3.75; 1919, August, $3.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$2.85	$2.85	$2.25	$1.75
February	2.85	2.85	1.75	1.75
March	2.85	2.85	1.75	1.75
April	2.85	2.85	1.75	1.50
May	3.00	2.85	1.50	1.50
June	3.00	3.00	1.50	1.50
July	3.00	3.00	2.00	1.75
August	3.00	3.00	2.00	1.75
September	3.00	3.00	2.00	2.00
October	2.50	2.50	2.25	2.00
November	2.25	2.25	2.25	2.25
December	2.25	1.75	2.75	2.25
Year	3.00	1.75	2.75	1.50

Twenty-two Years' Prices

	Per pound— H.	L.
1921	$2.75	$1.50
1920	3.00	1.75
1919	2.85	2.25
1918	2.75	2.00
1917	2.50	2.00
1916	2.75	2.50
1915	3.50	2.25
1914	4.50	2.75
1913	3.10	2.75
1912	4.50	3.00
1911	3.75	2.75
1910	3.00	2.75
1909	3.00	1.75
1908	3.00	1.50
1907	3.00	1.25
1906	1.50	1.00
1905	1.50	1.00
1904	1.50	1.50
1903	2.50	1.50
1902	3.00	2.50
1901	4.75	3.00
1900	4.50	4.00

Vanilla, Tahiti, Green Label

On October 18, 1901, the price was $1.75; 1911, $1.25; 1913, $2.35@2.50; 1919, August, $2.75.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$2.75	$2.75	$1.20	$1.20
February	Nominal		1.20	1.20
March	Nominal		1.20	1.20
April	Nominal		1.20	1.20
May	Nominal		1.20	1.10
June	Nominal		1.10	1.10
July	Nominal		1.10	1.10
August	Nominal		1.30	1.10
September	2.10	2.10	1.70	1.30
October	1.75	1.75	1.70	1.70
November	1.75	1.75	1.70	1.70
December	1.75	1.25	1.70	1.70
Year	2.75	1.25	1.70	1.10

BERRIES

Cubeb, Ordinary

On October 18, 1871, the price was 18c.; 1881, 65c.; 1891, 55c.; 1901, 12@13c.; 1911, 42@44c.; 1913, 38@40c.; 1919, November, $1.40.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.40	$1.40	$1.30	$1.30
February	1.40	1.40	1.30	1.25
March	1.40	1.40	1.30	1.25
April	1.35	1.35	1.20	1.10
May	1.35	1.35	1.10	1.00
June	1.30	1.30	1.00	1.00
July	1.30	1.30	1.00	1.00
August	1.30	1.30	1.00	.90
September	1.30	1.30	.90	.90
October	1.40	1.30	.90	.90
November	1.40	1.40	.90	.90
December	1.40	1.30	.90	.90
Year	1.40	1.30	1.30	.90

Cubeb XX

On January 12, 1881, the price was 25c.; October 18, 1881, $1; 1891, 85c.; 1901, 14@17c.; 1911, 44@46c.; 1913, 40@42c.; 1920, January, $1.50.

	Per pound— 1920. H.	L.	1921 H.	L.
January	$1.50	$1.50	$1.40	$1.40
February	1.50	1.50	1.40	1.40
March	1.50	1.50	1.40	1.35
April	1.50	1.50	1.30	1.20
May	1.50	1.50	1.20	1.20
June	1.50	1.50	1.15	1.10
July	1.50	1.50	1.10	1.10
August	1.50	1.50	1.10	1.00
September	1.50	1.50	1.00	1.00
October	1.50	1.50	1.00	1.00
November	1.50	1.50	1.00	1.00
December	1.50	1.40	1.00	1.00
Year	1.50	1.40	1.40	1.00

Cubeb, Powdered

On October 18, 1871, the price was 35c.; 1881, $1.35; 1891, 80c.; 1901, 14@17c.; 1911, 44@46c.; 1913, 40@42c.; 1919, November, $1.45.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.45	$1.45	$1.40	$1.35
February	1.45	1.45	1.35	1.35
March	1.45	1.45	1.35	1.30
April	1.40	1.40	1.25	1.15
May	1.40	1.40	1.15	1.05
June	1.35	1.35	1.05	1.05
July	1.35	1.35	1.10	1.05
August	1.35	1.35	1.00	.95
September	1.35	1.35	.95	.95
October	1.45	1.35	.95	.95
November	1.45	1.45	.95	.95
December	1.45	1.40	.95	.95
Year	1.45	1.35	1.40	.95

Juniper

On January 17, 1872, the price was 4½@5c.; October 18, 1881, 3-½@4c.; 1891, 2½@3c.; 1901, 2¾@3c.; 1911, 3¼@3¾c.; 1913, 4@4½c.; 1919, 12c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.07	$0.07	$0.03¾	$0.03¾
February	.06½	.06	.03¾	.03¾
March	.05½	.05	.03¾	.03¾
April	.05	.05	.03¾	.03¾
May	.05	.05	.03¾	.03¾
June	.05	.05	.03¾	.03¾
July	.05	.05	.03¾	.03¾
August	.05	.04½	.03¾	.03¾
September	.04½	.04½	.04	.03¾
October	.04¾	.04½	.04	.04
November	.04¾	.04½	.04	.04
December	.04½	.03¾	.04	.04
Year	.07	.03¾	.04	.03¾

Prickly Ash

On January 19, 1881, the price was 90c.@$1; October 18, 1881, 90c.@$1; 1891, $1; 1901, 45@60c.; 1911, 75@81c.; 1913, 24@30c.; 1919, September, 14c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.14	$0.14	$0.12	$0.12
February	.14	.14	.12	.12
March	.14	.13	.12	.12
April	.13	.12	.12	.12
May	.12	.12	.12	.12
June	.12	.12	.12	.12
July	.12	.12	.12	.12
August	.12	.12	.12	.12
September	.12	.12	.12	.12
October	.12	.12	.12	.12
November	.12	.12	.12	.12
December	.12	.12	.12	.12
Year	.14	.12	.12	.12

FLOWERS

Arnica

On November 22, 1871, the price was 10@11c.; October 18, 1881, 9@10c.; 1891, 16@18c.; 1901, 8½@9½c.; 1911, 13@14c.; 1913, 15@16c.; 1917, April, $3.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.40	$0.33	$0.17	$0.15
February	.40	.33	.15	.15
March	.38	.34	.15	.15
April	.34	.34	.15	.15
May	.32	.29	.15	.14
June	.28	.22	.14	.12
July	.24	.22	.12	.12
August	.24	.24	.12	.12
September	.22	.22	.12	.12
October	.22	.22	.12	.12
November	.22	.22	.12	.11
December	.17	.17	.11	.11
Year	.40	.17	.17	.11

Chamomile, Roman

On October 18, 1871, the price was 20@30c.; 1881, 14@16c.; 1891, 20@35c.; 1901, 18@20c.; 1911, 27@35c.; 1913, 21@24c.; 1917, May, $1.35.

	Per pound— 1920. H.	L.	1921 H.	L.
January	$0.35	$0.35	$0.16	$0.16
February	.35	.35	.16	.16
March	.35	.18	.20	.16
April	.18	.18	.23	.20
May	.24	.18	.28	.23
June	.24	.18	.28	.25
July	.18	.18	.25	.23
August	.18	.16	.22	.22
September	.16	.16	.22	.21
October	.16	.16	.22	.22
November	.16	.16	.30	.30
December	.16	.16	.90	.50
Year	.35	.16	.90	.16

Insect Powder, 100%

On May 29, 1872, the price was 55@80c.; October 18, 1881, 40@42c.; 1891, 17@24c.; 1901, 15@24c.; 1911, 14@30c.; 1913, 22@40c.; 1920, March, $1.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.95	$0.90	$0.55	$0.50
February	.95	.95	.50	.50
March	1.00	.95	.45	.42
April	1.00	.95	.40	.36
May	.95	.88	.36	.36
June	.87	.84	.36	.36
July	.85	.80	.36	.36
August	.78	.75	.36	.36
September	.75	.68	.36	.36
October	.68	.65	.36	.36
November	.65	.65	.36	.36
December	.63	.55	.36	.36
Year	1.00	.55	.55	.36

Lavender, Ordinary

On June 12, 1872, the price was 5¾@6c.; October 18, 1881, 4@5½c.; 1891, 3@5c.; 1901, 4@5c.; 1911, 7@9c.; 1913, 10@11c.; 1919, January, 27c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.18	$0.18	$0.18	$0.18
February	.18	.18	.18	.18
March	.18	.18	.18	.18
April	.18	.18	.18	.18
May	.18	.18	.18	.18
June	.18	.18	.18	.18
July	.18	.18	.18	.18
August	.18	.18	.18	.18
September	.18	.18	.18	.18
October	.18	.18	.18	.18
November	.18	.18	.27	.27
December	.18	.18	.27	.20
Year	.18	.18	.27	.18

Saffron, American

On November 22, 1871, the price was $1.75@2; October 18, 1881, 40c.; 1891, 24c.; 1901, 14@20c.; 1911, 30@32c.; 1913, 60@65c.; 1917, January, 75c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.35	$0.35	$0.75	$0.68
February	.35	.35	.70	.70
March	.33	.33	.75	.75
April	.45	.33	.80	.80
May	.75	.45	.80	.75
June	Nominal		.75	.75
July	.85	.80	.75	.75
August	1.00	.90	1.00	.75
September	.90	.75	1.35	1.25
October	.75	.75	1.35	1.35
November	.75	.75	1.35	1.35
December	.75	.75	1.35	1.15
Year	1.00	.33	1.35	.68

Twelve Years' Prices

	Per pound— H.	L.
1921	$1.35	$0.68
1920	1.00	.33
1919	.40	.33
1918	.48	.39
1917	.75	.45
1916	2.00	.75
1915	1.25	.32
1914	.90	.35
1913	.45	.30
1912	.45	.33
1911	.33	.18
1910	.35	.18

Saffron, Spanish

On November 22, 1871, the price was $13@14; October 18, 1881, $17@18; 1891, $9.50@11.50; 1901, $6.75@7; 1911, $10.60@11; 1913, $12.25@12.75; 1918, July, $16.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$15.00	$15.00	$12.00	$12.00
February	17.00	16.00	12.00	12.00
March	16.75	16.75	12.50	12.25
April	16.00	15.25	13.00	13.00
May	15.25	15.00	13.25	13.00
June	14.75	14.50	13.50	13.50
July	14.50	14.50	13.50	13.25
August	14.25	14.00	13.50	13.00
September	14.00	13.50	13.00	13.00
October	13.25	12.50	13.75	13.50
November	12.50	12.25	14.00	13.75
December	12.25	12.00	15.50	14.00
Year	17.00	12.00	15.50	12.00

HERBS AND LEAVES

Aconite

On April 2, 1878, the price of powder was 20@21c.; October 18, 1881, 8@10c.; 1891, 10@11c.; 1901, 9@10c.; 1911, 7@8c.; 1913, 7@8c.; 1920, August, 70c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	Nominal		$0.55	$0.55
February	Nominal		.55	.55
March	Nominal		.55	.55
April	Nominal		.55	.55
May	Nominal		.55	.45
June	Nominal		.28	.28
July	Nominal		.28	.27
August	.70	.70	.27	.27
September	.65	.65	.27	.27
October	.65	.65	.27	.27
November	.60	.60	.27	.27
December	.60	.55	.27	.27
Year	.70	.55	.55	.27

Belladonna

On April 2, 1878, the price of powder was 26@27c.; October 18, 1881, 14@16c.; 1891, 11@15c.; 1901, 14@16c.; 1911, 14@17c.; 1913, 16c.; 1918, February, $1.65.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.30	$0.30	$0.28	$0.28
February	.30	.30	.25	.25
March	.35	.30	.25	.25
April	.35	.35	.25	.25
May	.35	.35	.25	.20
June	.34	.34	.20	.17
July	.34	.30	.17	.17
August	.30	.30	.17	.17
September	.30	.30	.17	.16
October	.30	.28	.16	.16
November	.28	.28	.16	.16
December	.28	.28	.15	.14
Year	.35	.28	.28	.14

Buchu

On November 22, 1871, the price of short was 15@16c.; long, 24@26c.; October 18, 1881, short, 18@20c.; long, 47@50c.; 1891, short, 11@20c.; long, 65c.; 1901, short, 26@28c.; long, 75c.; 1911, short, $1.10@1.15; long, 65@70c.; 1913, short, $1.30@1.35; long, $1.30@1.35; 1920, short, June, $4; long, October, $3.30.

	Per pound— 1920 Short. H.	L.	Long. H.	L.	1921 Short. H.	L.	Long. H.	L.
Jan.	$2.35	$2.35	$2.30	$2.35	$2.60	$2.35	$2.75	$2.65
Feb.	2.40	2.35	2.40	2.35	2.25	1.50	2.65	2.65
Mch.	3.75	3.00	2.75	2.75	1.50	1.30	Nominal	
Apr.	4.00	3.00	3.25	3.00	1.30	1.15	Nominal	
May	3.90	3.50	3.00	3.00	1.15	1.05	Nominal	
June	4.00	3.90	3.25	3.25	1.05	.90	Nominal	
July	4.00	4.00	3.25	3.25	.90	.85	Nominal	
Aug.	4.00	3.75	3.25	3.25	.85	.85	Nominal	
Sept.	3.85	3.40	Nominal		1.00	.85	Nominal	
Oct.	3.40	3.40	3.30	3.25	1.25	1.00	Nominal	
Nov.	3.30	3.10	3.20	3.00	1.25	1.25	Nominal	
Dec.	3.10	2.60	3.00	2.75	1.20	1.15	Nominal	
Year	4.00	2.35	3.30	2.35	2.60	.85	2.75	2.65

Ten Years' Prices

	Per pound— H.	L.
1921	$2.60	$1.15
1920	4.00	2.35
1919	3.25	1.75
1918	2.60	1.15
1917	1.35	1.15
1916	1.30	1.15
1915	1.55	1.05
1914	1.85	1.30
1913	1.50	1.25
1912	1.65	.95

F. MORSE SMITH
W. H. GELSHENEN

Cable Address: BAKERBRO, NEW YORK
ALL CODES
PHONE, 1910 BEEKMAN

H. J. BAKER & BRO.

ESTABLISHED 1850

Home Office: 81 FULTON ST., NEW YORK

San Francisco Baltimore Charleston Savannah Rio de Janeiro Buenos Aires

Distributors United States and Canada for

ANTONY GIBBS & CO.

Nitrate of Soda

U. S. Sales Agents

SOCIETE COMMERCIALE DES POTASSES D'ALSACE

MULHOUSE, ALSACE, FRANCE

Potash Salts for Fertilizer and Chemical Purposes

JOHN & E. STURGE, Ltd.
BIRMINGHAM, ENG.
Precipitated Chalk, Etc.

HOWARD'S & SONS, Ltd.
LONDON, ENG.
Calomel, Benzoic Acid, Etc.

PEDER DEVOLD
AALESUND, NORWAY
Cod Liver Oil

Representing

HUYZER'S EUBOEA MAGNESIET-WERKEN
AMSTERDAM, HOLLAND
Crude and Calcined Magnesite

THE BRITISH CYANIDES COMPANY, Ltd.
LONDON, ENGLAND
Yellow Prussiate Soda

Sales Agents & Distributors
TEXAS GULF SULPHUR CO.
Brimstone

Sole Sales Agents
AMALGAMATED PHOS. CO.
Florida Land Pebble Phosphate

Sales Agents

SAGINAW SALT PRODUCTS CO. SECAW CHEMICAL CO.
AMERICAN PHOSPHORUS CO.
QUINN LABORATORIES, Inc.—*Creosote, Guaiacol, Etc.*
PENN FORMALDEHYDE MFG. CO.—*Formaldehyde*
BY PRODUCTS STEEL CORP.—*Zinc Chloride*

Fertilizer Materials
Camphor Refiners

Pharmaceuticals
Chemicals

Cannabis, Domestic, U. S. P.

On May 8, 1899, the price was 14@15½c.; October 18, 1901, 50@55c.; 1911, $1.25@1.30; 1913, $1.45; 1918, January, $1.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.35	$0.35	$0.35	$0.35
February	.35	.30	.35	.35
March	.30	.30	.35	.35
April	.30	.30	.35	.35
May	.30	.30	.35	.35
June	.30	.30	.35	.35
July	.30	.30	.35	.35
August	.30	.30	.30	.30
September	.30	.30	.30	.30
October	.35	.35	.30	.30
November	.35	.35	.30	.30
December	.35	.30	.35	.30
Year				

Deer Tongue

On April 2, 1878, the price was 8c.; October 18, 1881, 7@8c.; 1901, 3@4c.; 1911, 8@9c.; 1913, 7½@8c.; 1918, February, 25c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.12	$0.12	$0.09	$0.09
February	.12	.12	.09	.09
March	.12	.12	.09	.09
April	.12	.12	.09	.09
May	.10	.09	.09	.09
June	.09	.09	.09	.09
July	.09	.09	.09	.09
August	.09	.09	.09	.09
September	.09	.09	.09	.09
October	.09	.09	.09	.09
November	.09	.09	.08	.08
December	.09	.09	.08	.07½
Year	.12	.09	.09	.07½

Henbane

On April 2, 1878, the price of powder was 22c.; October 18, 1881, 12@14c.; 1891, 10c.; 1901, 9@12c.; 1911, 9@10c.; 1913, 6½@7c.; 1918, $2.10.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.35	$0.35	$0.30	$0.25
February	.35	.35	.25	.25
March	.35	.35	.25	.25
April	.35	.35	.25	.25
May	.35	.35	.25	.25
June	.35	.35	.22	.21
July	.35	.35	.21	.21
August	.35	.35	.21	.21
September	.35	.34	.21	.18
October	.34	.30	.20	.18
November	.30	.30	.24	.20
December	.30	.28	.22	.22
Year	.35	.28	.30	.18

Laurel, Good

On April 2, 1878, the price of ground was 10c.; October 18, 1881, 3@5c.; 1891, 3½@4c.; 1901, 3@4c.; 1911, 3¼@3½c.; 1913, 3½@3¾c.; 1918, April, 16c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.08	$0.07½	$0.04½	$0.04½
February	.07½	.07½	.04½	.04½
March	.07½	.06½	.04	.04
April	.07	.06½	.04	.04
May	.06½	.05½	.04	.03½
June	.06	.05½	.03¾	.03½
July	.06	.05½	.03¾	.03¾
August	.06	.05½	.03¾	.03½
September	.05¾	.05½	.03½	.03½
October	.05¾	.05½	.03½	.03½
November	.05½	.05¼	.03½	.03½
December	.05¾	.04½	.03½	.03½
Year	.08	.04½	.04½	.03½

Pennyroyal

On December 20, 1897, the price was 8½c.; October 18, 1901, 8½c.; 1911, 4@5c.; 1913, 4@5c.; 1918, January, 18c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.18	$0.14	$0.10	$0.10
February	.14	.14	.10	.10
March	.14	.14	.10	.10
April	.14	.14	.10	.10
May	.14	.14	.10	.10
June	.14	.14	.10	.08
July	.14	.14	.08	.08
August	.14	.14	.08	.08
September	.14	.10	.08	.08
October	.10	.10	.08	.08
November	.10	.10	.08	.08
December	.10	.10	.08	.08
Year	.18	.10	.10	.08

Peppermint, American

On April 2, 1878, the price was 10c.; October 18, 1881, 10c.; 1901, 30c.; 1911, 8@8½c.; 1913, 11@12c.; 1918, June, 30c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.30	$0.30	$0.30	$0.30
February	.30	.30	.30	.30
March	.30	.30	.30	.30
April	.30	.30	.30	.28
May	.30	.30	.28	.28
June	.30	.30	.28	.28
July	.30	.30	.28	.20
August	.30	.30	.26	.20
September	.30	.30	.20	.16
October	.30	.30	.16	.16
November	.30	.30	.16	.16
December	.30	.30	.16	.16
Year	.30	.30	.30	.16

Princess Pine

On October 18, 1871, the price was 3½@4c.; 1881, 8@9c.; 1891, 8c.; 1901, 8c.; 1911, 8@10c.; 1913, 8@10c.; 1918, October, 50c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.25	$0.25	$0.18	$0.18
February	.25	.25	.18	.17
March	.25	.20	.17	.17
April	.20	.20	.17	.16
May	.20	.20	.16	.16
June	.20	.20	.16	.16
July	.20	.20	.16	.16
August	.20	.20	.16	.16
September	.20	.18	.16	.16
October	.18	.18	.16	.16
November	.18	.18	.16	.16
December	.18	.18	.16	.14
Year	.25	.18	.18	.14

Sage, Greek, Stemless

On March 26, 1873, the price was 3½@4c.; October 18, 1881, Italian, 2¼@2½c.; 1891, Italian, 5½@8c.; 1901, Italian, 3⅝@3⅞c.; 1911, Italian, 3¾@4c.; 1913, Greek, 3@4c.; 1918, November, 36c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.24	$0.17	$0.08½	$0.08
February	.17	.16½	.07	.07
March	.16	.14	.06½	.05¾
April	.14½	.14	.05¾	.05¼
May	.14	.13½	.05½	.05¼
June	.13	.12	.05½	.05
July	.13	.12½	.04¾	.04½
August	.12½	.12	.04½	.04½
September	.13	.12	.04½	.04
October	.13	.11½	.04¼	.04
November	.11½	.09½	.04¼	.04
December	.09	.08½	.04	.03¾
Year	.24	.08½	.08½	.03¾

Senna, Tinnevelly

On October 18, 1871, the price was 16c.; 1881, 11@15c.; 1891, 5@18c.; 1901, 6¼@14c.; 1911, 6@12c.; 1913, 7@9c.; 1919, November, 17c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.17	$0.17	$0.11	$0.11
February	.17	.17	.11	.08
March	.16	.16	.08	.08
April	.16	.15	.08	.08
May	.15	.15	.08	.08
June	.16	.15	.08	.08
July	.15	.15	.08	.08
August	.15	.15	.08	.06
September	.15	.15	.06	.06
October	.15	.13	.06	.06
November	.14	.13	.06	.06
December	.14	.11	.06	.06
Year	.17	.11	.11	.06

Uva Ursi

On May 29, 1872, the price was 6@7c.; October 18, 1881, 4@5½c.; 1891, 5@7c.; 1901, 3½@5c.; 1911, 3¾@4c.; 1913, 3½@4c.; 1918, May, 24c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.09	$0.09	$0.05½	$0.05½
February	.09	.09	.05½	.05
March	.09	.09	.05	.05
April	.09	.08	.05	.05
May	.08	.07¾	.05	.05
June	.08	.07½	.05	.05
July	.07½	.07½	.04½	.05
August	.07½	.07½	.04	.04
September	.07½	.07½	.04	.04
October	.07½	.06½	.04	.04
November	.06½	.06½	.04	.04
December	.06½	.05½	.04	.04
Year	.09	.05½	.05½	.04

ROOTS

Aconite, U. S. P.

On February 25, 1874, the price was 14c.; October 18, 1881, 10@12c.; 1891, 13@15c.; 1901, 13@14c.; 1911, 10½@11c.; 1913, 13@15c.; 1919, December, 90c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.90	$0.90	$0.35	$0.35
February	.90	.90	.35	.33
March	.90	.80	.33	.33
April	.80	.80	.33	.30
May	.75	.65	.30	.25
June	.64	.59	.25	.25
July	.59	.59	.25	.25
August	.60	.55	.25	.22
September	.55	.50	.22	.22
October	.50	.45	.20	.20
November	.45	.45	.22	.20
December	.45	.35	.20	.20
Year	.90	.35	.35	.20

Aletris

On January 12, 1881, the price was 35@40c.; October 18, 1881, 35@40c.; 1901, 16c.; 1911, 20@22c.; 1913, 20@21c.; 1920, March, $1.25.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.10	$0.95	$0.80	$0.80
February	1.15	1.10	.80	.80
March	1.25	1.25	.80	.70
April	1.25	1.20	.70	.60
May	1.00	.95	.60	.45
June	.95	.95	.43	.43
July	.95	.92	.43	.42
August	.90	.85	.42	.40
September	.90	.85	.40	.40
October	.90	.85	.40	.36
November	.95	.85	.36	.34
December	.90	.80	.34	.34
Year	1.25	.80	.80	.34

Belladonna

On December 22, 1875, the price was 18c.; October 18, 1881, 10@12c.; 1891, 6@12c.; 1901, 10@11c.; 1911, 10½@11c.; 1913, 9@10c.; 1917, December, $4.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.55	$0.55	$0.40	$0.40
February	.55	.52	.35	.35
March	.52	.50	.35	.35
April	.50	.50	.35	.35
May	.50	.50	.30	.30
June	.50	.50	.30	.18½
July	.50	.45	.18½	.18
August	.45	.45	.18	.18
September	.45	.45	.18	.18
October	.45	.45	.18	.14
November	.45	.45	.14	.14
December	.45	.40	.14	.14
Year	.55	.40	.40	.14

Blood

On April 28, 1875, the price of crushed was 10c.; October 18, 1881, 6@6½c.; 1891, 4½@6c.; 1901, 5@6c.; 1911, 8@8½c.; 1913, 8½@9c.; 1918, November, 80c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.31	$0.31	$0.22	$0.22
February	.31	.29	.21	.21
March	.29	.28	.21	.19
April	.27	.25	.19	.19
May	.25	.23	.19	.19
June	.27	.23	.19	.18
July	.29	.27	.18	.17½
August	.29	.29	.17	.14
September	.26	.26	.14	.14
October	.26	.26	.14	.14
November	.25	.25	.14	.14
December	.25	.22	.14	.14
Year	.31	.22	.22	.14

Colombo, Whole

On November 22, 1871, the price was 13@14c.; October 18, 1881, 9½@10c.; 1891, 5@10c.; 1901, 8@12c.; 1911, 8@10c.; 1913, 6@7c.; 1918, September, 30c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.25	$0.25	$0.07	$0.07
February	.25	.25	.07	.07
March	.25	.18	.07	.07
April	.18	.15	.06½	.06½
May	.15	.15	.06½	.02
June	.15	.15	.02	.02
July	.15	.15	.02	.02
August	.15	.15	.02	.02
September	.15	.14	.04	.04
October	.12	.09½	.04	.04
November	.09½	.08	.04	.03
December	.08	.07	.03	.03
Year	.25	.07	.07	.02

Gentian, Whole

On November 22, 1871, the price was 5½@6c.; October 18, 1881, 4½@4¾c.; 1891, 3¾@4½c.; 1901, 4@4¼c.; 1911, 6@6½c.; 1913, 6½@6¾c.; 1918, November, 18c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.13½	$0.12½	$0.09	.09
February	.12½	.12	.10	.09
March	.12	.12	.09	.09
April	.12	.10½	.09	.09
May	.12	.10½	.09	.08
June	.12½	.12½	.08	.08
July	.12½	.12½	.08	.08
August	.12½	.12½	.08	.08
September	.12½	.12½	.08	.08
October	.12½	.11	.08	.08
November	.11	.11	.08	.08
December	.10	.09	.07½	.07½
Year	.13½	.09	.10	.07½

Golden Seal

On February 25, 1874, the price was 14c.; October 18, 1881, 15@16c.; 1891, 24@26c.; 1901, 55@60c.; 1911, $5.25@5.50; 1913, $4.90@5; 1917, April, $5.75.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$5.95	$5.95	$4.85	$4.75
February	5.95	5.95	5.00	4.75
March	6.00	6.00	4.75	4.50
April	6.00	5.75	4.50	4.25
May	5.75	5.75	4.75	4.45
June	6.10	5.75	4.45	3.75
July	6.25	6.25	3.85	3.75
August	6.50	6.25	3.75	3.75
September	6.50	6.50	3.75	3.50
October	6.50	6.25	3.50	3.25
November	5.85	5.85	3.25	3.10
December	5.85	4.85	3.25	3.25
Year	6.50	4.85	5.00	3.10

Ten Years' Prices

	Per pound— H.	L.
1921	$5.00	$3.10
1920	6.50	4.85
1919	6.00	5.25
1918	5.35	4.90
1917	5.75	6.00
1916	5.50	4.25
1915	4.85	4.20
1914	4.90	4.20
1913	5.00	3.90
1912	5.25	4.00

Hellebore, White, Powdered

On May 28, 1875, the price was 15c.; October 18, 1881, whole, 6@7c.; 1891, 8@12c.; 1901, 7@7½c.; 1911, 7½@8c.; 1913, 10@11c.; 1918, February, 24c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.19	$0.19	$0.21	$0.19
February	.19	.19	.19	.19
March	.19	.19	.18	.18
April	.19	.19	.18	.18
May	.19	.19	.18	.17
June	.19	.19	.16	.16
July	.19	.19	.16	.16
August	.19	.19	.16	.16
September	.18	.18	.16	.16
October	.18	.18	.16	.15
November	.18	.18	.15	.15
December	.18	.18	.15	.15
Year	.19	.18	.21	.15

Ipecac

On October 18, 1871, the price of Rio was $1.27½; 1881, $1.10@1.15; 1891, $2@2.15; 1901, $2.70@2.80; 1911, $2.25@2.30; 1913, $2.10; 1918, November, $4.75.

	Per pound— 1920. Cartagena. H.	L.	Rio. H.	L.	1921. Cartagena. H.	L.	Rio. H.	L.
Jan.	$3.50	$3.25	$3.50	$3.20	$3.00	$2.75	$2.50	$2.50
Feb.	3.50	3.50	3.50	3.50	2.75	2.75	2.50	2.50
Mar.	3.50	3.25	3.50	3.50	2.75	2.40	2.50	2.50
Apr.	3.35	3.25	3.50	3.50	2.25	2.15	2.50	2.15
May	3.25	3.25	3.50	3.30	2.15	2.15	2.15	2.15
June	3.25	3.25	3.50	3.30	2.15	2.15	2.15	2.15
July	3.25	3.25	3.30	3.30	2.00	1.85	2.15	2.15
Aug.	3.25	3.25	3.30	3.30	1.40	1.35	1.45	1.35
Sept.	3.25	3.25	3.30	3.30	1.35	1.35	1.35	1.35
Oct.	3.25	3.25	3.30	3.30	1.35	1.35	1.35	1.35
Nov.	3.25	3.10	3.30	2.75	1.35	1.35	1.35	1.35
Dec.	3.00	3.00	2.60	2.50	1.35	1.35	1.35	1.35
Year	3.50	3.00	3.50	2.50	3.00	1.35	2.50	1.35

Rio, Eleven Years' Prices

	Per pound— H.	L.
1921	$2.50	$1.35
1920	3.50	2.50
1919	4.00	2.50
1918	4.75	3.00
1917	3.10	2.00
1916	2.65	2.55
1915	5.50	1.70
1914	2.00	1.42½
1913	2.20	1.75
1912	2.35	1.45
1911	2.30	1.75

Jalap

On October 18, 1871, the price was 40c.; 1881, 18@20c.; 1891, 50@52½c.; 1901, 12@14c.; 1911, 33@35c.; 1913, 15@16c.; 1919, August, 80c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.80	$0.80	$0.35	$0.35
February	.80	.80	.25	.25
March	.80	.75	.25	.25
April	.60	.60	.25	.25
May	.60	.53	.25	.23
June	.53	.50	.23	.23
July	.50	.48	.23	.20
August	.48	.45	.20	.17
September	.45	.45	.17	.15
October	.45	.45	.15	.13
November	.40	.40	.13	.13
December	.40	.35	.13	.13
Year	.80	.35	.35	.13

Eleven Years' Prices

	Per pound— H.	L.
1921	$0.35	$0.13
1920	.80	.35
1919	.80	.50
1918	.62	.47
1917	.50	.12
1916	.12	.08¾
1915	.10	.08
1914	.20	.10
1913	.23	.13
1912	.26	.22
1911	.40	.22

Licorice, Spanish

On November 22, 1871, the price was 8c.; October 18, 1881, 5@6c.; 1891, 3½@5c.; 1901, 3¼@4c.; 1911, 4@4½c.; 1913, 4½@5¼c.; 1918, May, 34c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.18	$0.18	$0.12	$0.12
February	.18	.15	.10	.10
March	.15	.15	.10	.07¼
April	.15	.14	.07¼	.07¼
May	.14	.14	.06½	.06
June	.14	.13	.06	.06
July	.13	.13	.06	.06
August	.13	.13	.06	.06
September	.13	.13	.06	.06
October	.13	.13	.06	.06
November	.12	.12	.06	.06
December	.12	.12	.06	.06
Year	.18	.12	.12	.06

Mandrake

On April 14, 1875, the price was 6@7c.; October, 18, 1881, 5@6c.; 1891, 3¾@4¼c.; 1901, 4@5c.; 1911, 6@6½c.; 1913, 7@7½c.; 1920, February, 42c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.40	$0.38	$0.16	$0.15
February	.42	.42	.15	.15
March	.42	.42	.15	.12
April	.42	.42	.11	.11
May	.42	.42	.11	.11
June	.46	.28	.11	.10
July	.26	.24	.10	.10
August	.20	.18	.10	.10
September	.17	.17	.10	.10
October	.19	.15	.11	.11
November	.18	.16	.11½	.11
December	.16	.16	.11½	.11½
Year	.42	.15	.16	.10

Orris, Florentine Whole

On November 22, 1871, the price was 15@16c.; October 18, 1881, 15@19c.; 1891, 35@40c.; 1901, 9@11½c.; 1911, 9½@10c.; 1913, 15½@16½c.; 1918, October, 29c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.22	$0.22	$0.08	$0.08
February	.22	.16	.08	.08
March	.16	.16	.08	.08
April	.15	.15	.08	.08
May	.14	.14	.10	.09
June	.14	.14	.09	.09
July	.14	.14	.09	.09
August	.14	.14	.09	.09
September	.14	.14	.09	.09
October	.14	.13	.09	.09
November	.13	.10	.09	.09
December	.10	.08	.09	.08
Year	.22	.08	.10	.08

Orris, Verona

On January 17, 1872, the price was 14c.; October 18, 1881, 8@10c.; 1891, 14@17c.; 1901, 4@6c.; 1911, 9@9½c.; 1913, 13½@14½c.; 1918, November, 28c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.20	$0.20	$0.06	$0.06
February	.20	.17	.06	.06
March	.15	.14	.06	.06
April	.12	.12	.06	.06
May	.11	.11	.06	.06
June	.11	.09	.06	.06
July	.14	.09	.06	.06
August	.13	.13	.06	.06
September	.13	.13	.06	.06
October	.13	.12	.06	.06
November	.12	.06½	.06	.06
December	.06½	.06	.06	.06
Year	.20	.06	.06	.06

Pink, True

On November 25, 1874, the price was 20c.; October 18, 1881, 25@30c.; 1891, 24@25½c.; 1901, 20@22c.; 1911, 30@40c.; 1913, 45@75c.; 1920, March, $4.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$2.50	$2.50	$1.60	$1.60
February	3.50	2.50	1.55	1.55
March	4.50	3.50	1.55	1.35
April	3.50	3.50	1.25	1.25
May	3.50	3.50	1.25	1.25
June	3.50	3.00	1.00	.95
July	3.00	2.25	.95	.95
August	2.25	2.00	.95	.90
September	2.00	2.00	.90	.90
October	2.00	1.75	.90	.90
November	1.75	1.75	.90	.85
December	1.75	1.60	.80	.80
Year	4.50	1.60	1.60	.80

Rhubarb, High Dried

On October 18, 1871, the price was 55c.; 1881, 18c.@$1; 1890, 30@70c.; 1901, 17½@25c.; 1911, 16@17c.; 1913, 16@17c.; 1919, December, $1.90.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.80	$1.75	$0.60	$0.50
February	1.75	1.65	.50	.48
March	1.40	1.30	.45	.38
April	1.30	1.20	.38	.30
May	1.20	1.15	.30	.30
June	1.15	.90	.30	.26
July	.80	.75	.26	.21
August	.75	.75	.23½	.23
September	.75	.70	.26	.23
October	.70	.70	.35	.28
November	.70	.70	.40	.35
December	.70	.60	.50	.43
Year	1.80	.60	.60	.21

Sarsaparilla, Mexican

On October 18, 1871, the price was 17c.; 1881, 9¾@10½c.; 1891, 14@15c.; 1901, 7@7¼c.; 1911, 16c.; 1913, 18@19c.; 1918, March, 70c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.47	$0.47	$0.38	$0.38
February	.46	.46	.38	.38
March	.46	.41	.38	.38
April	.41	.41	.40	.38
May	.41	.36	.43	.40
June	.38½	.38½	.43	.41
July	.38½	.38½	.41	.41
August	.40	.38½	.40	.39
September	.40	.35	.40	.40
October	.36	.36	.42	.40
November	.38	.36	.42	.42
December	.39	.38	.42	.42
Year	.47	.35	.43	.38

Twelve Years' Prices

	Per pound— H.	L.
1921	$0.43	$0.38
1920	.47	.36
1919	.55	.30
1918	.70	.32
1917	.60	.13½
1916	.13	.10½
1915	.15	.09
1914	.50	.10
1913	.28	.14
1912	.19	.11
1911	.18½	.09
1910	.11	.08¾

Cable Address:
GRAYLIME, N. Y.

ESTABLISHED 1880

Telephone Calls:
VANDERBILT 8990-5

WM. S. GRAY & CO.

342 MADISON AVENUE
NEW YORK CITY, N. Y.
(Canadian Pacific Building)

CHEMICALS AND SOLVENTS

Acetate of Lime
Acetone Oils
Acetone
Butanol
Columbian Methanol
Denatured Alcohol
All Formulas
Ethyl Methyl Ketone
Formaldehyde
Hexa
Magnesia
Methyl Acetone
Para Formaldehyde
Whiting
Wood Alcohol
Various Grades

Paramet ester Gum

Correspondence Solicited

44 CLIFF ST., N. Y. WAREHOUSES NEWARK, N. J.

Senega, Northwestern

On October 18, 1871, the price was $1.60; 1881, 57½@60c.; 1891, 40c.; 1901, 57c.; 1911, 55@57½c.; 1913, 66@68c.; 1920, January, $2.50.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.50	$2.25	$0.90	$0.70
February	2.50	2.50	.70	.70
March	2.50	2.50	.70	.65
April	2.50	2.35	.70	.70
May	2.35	2.25	.70	.60
June	2.25	1.85	.65	.60
July	1.85	1.40	.65	.60
August	1.30	1.05	.70	.60
September	1.20	1.05	.75	.75
October	1.20	1.00	.75	.75
November	1.10	.95	.80	.75
December	.95	.90	.80	.80
Year	2.50	.90	.80	.60

Twelve Years' Prices

	Per pound	
	H.	L.
1921	$0.90	$0.60
1920	2.50	.90
1919	2.40	.90
1918	1.05	.80
1917	.85	.60
1916	.68	.40
1915	.45	.35
1914	.50	.38
1913	.80	.63
1912	.65	.59
1911	.60	.42
1910	.60	.43

Squills, White

On November 22, 1871, the price was 6@6½c.; October 18, 1881, 6@7c.; 1891, 5½@7½c.; 1901, 3¾@4c.; 1911, 3½@5c.; 1913, 6@8c.; 1918, November, 16c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.12	$0.12	$0.09	$0.08
February	.12½	.12½	.07	.07
March	.12½	.10	.07	.07
April	.10	.10	.07	.07
May	.10	.10	.07	.07
June	.10	.10	.07	.06
July	.10	.10	.06	.06
August	.10	.10	.06	.06
September	.10	.10	.06	.05
October	.10	.10	.05	.05
November	.10	.09	.05	.05
December	.09	.09	.05	.05
Year	.12½	.09	.09	.05

Valerian, Belgian

On November 22, 1871, the price was 20@35c.; October 18, 1881, German, 12@13½c.; 1891, 7½@8c.; 1901, 5½@6c.; 1911, 13@13½c.; 1913, 9½@10c.; 1919, January, $1.65.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.53	$0.53	$0.14	$0.14
February	.53	.53	.15	.14
March	.40	.38	.14	.14
April	.35	.26	.14	.14
May	.24	.24	.14	.13
June	.24	.20	.13	.11
July	.22	.20	.11	.11
August	.22	.20	.11	.11
September	.20	.18	.11	.11
October	.18	.18	.11	.11
November	.18	.18	.11	.11
December	.18	.14	.11	.10
Year	.53	.14	.15	.10

SEEDS

Anise, Spanish

On November 22, 1871, the price of German was 14c.; October 18, 1881, 9@10c.; 1891, German, 5½@7c.; 1901, Russian, 5½@6c.; 1911, Spanish, 8¼@9c.; 1913, 8½@9½c.; 1917, February, 30c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.22	$0.20	$0.15½	$0.15
February	.22½	.21½	.14¾	.14½
March	.21½	.21½	.14½	.14
April	.21¼	.21½	.15	.14¾
May	.21½	.20	.14¾	.14¾
June	.20	.19	.14¾	.14¾
July	.19	.19	.14¾	.14¾
August	.18½	.18	.14¾	.14½
September	.18	.17½	.14¼	.13
October	.18	.17½	.13	.12½
November	.17½	.16	.15	.13½
December	.16	.15½	.15½	.15
Year	.22½	.15½	.15½	.12½

Canary

SPANISH

On June 12, 1871, the price was 3½c.; October 18, 1881, 4@4¼c.; 1891, 2½@2¾c.; 1901, Smyrna, 2⅝@2¼c.; 1911, Smyrna, 3¼@3¾c.; 1913, Smyrna, 5½@5¾c.; 1918, September, Spanish, 25c.; 1920, nominal; 1921, nominal.

SOUTH AMERICAN

On May 28, 1906, 4c.; October 18, 1911, 3¼@3¾c.; 1913, 5½@5¾c.; 1918, September, 25c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.08¼	$0.07¾	$0.04¾	$0.04½
February	.07¾	.07½	.04½	.04
March	.07¾	.07	.04	.03½
April	.07	.06¾	.03½	.03½
May	.06¾	.06	.03½	.03½
June	.06	.06	.03½	.03½
July	.05½	.05	.03½	.03½
August	.06¼	.06	.04½	.03½
September	.06	.05½	.04½	.04
October	.05½	.05½	.04	.03¾
November	.05¼	.05¼	.03½	.03
December	.05	.04½	.03½	.03¼
Year	.08¼	.04½	.04¾	.03

Cardamom, Bleached

On October 18, 1871, the price was $2.80@2.85; 1881, $2@2.25; 1891, 60@80c.; 1901, 55@85c.; 1911, 62@$1.25; 1913, $1.25@1.75; 1919, December, $2.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.35	$1.35	$0.80	$0.80
February	1.35	1.35	.90	.80
March	1.50	1.35	.90	.90
April	1.50	1.50	.90	.90
May	2.00	1.50	.90	.80
June	2.00	2.00	.80	.80
July	2.00	2.00	.80	.80
August	2.00	1.60	.90	.80
September	1.50	1.40	.70	.65
October	1.40	1.20	.65	.65
November	1.15	.90	.65	.65
December	.90	.80	.65	.65
Year	2.00	.80	.90	.60

Caraway, African

On October 18, 1871, the price was 11½c.; 1881, Dutch, 6¾@7c.; 1891, 5@5¼c.; 1901, Dutch, 5½@6c.; 1911, Dutch, 6½@7c.; 1913, 7¼@7½c.; 1918, November, 69c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.12	$0.11½	$0.09	$0.08
February	.11	.10¼	.08	.08
March	.10½	.10¼	.08	.06½
April	.10½	.10¼	.06¼	.05¾
May	.10½	.10½	.06	.05¾
June	.10	.08¾	.07	.06¼
July	.10	.10	Nominal	
August	.10	.10	Nominal	
September	.10	.10	Nominal	
October	.10	.09½	Nominal	
November	.10	.10	Nominal	
December	.09½	.09	.07½	.07¼
Year	.12	.08¼	.09	.05¾

Eleven Years' Prices

	Per pound	
	H.	L.
1921	$0.09	$0.06¼
1920	.12	.09
1919	.52	.52
1918	.69	.52
1917	.65	.52
1916	.51	.10¾
1915	.13½	.08½
1914	.15	.07
1913	.07¼	.05¾
1912	.08	.05⅝
1911	.06½	.05

Celery

On October 7, 1879, the price was 15@16c.; October 18, 1881, 12½@14c.; 1891, 17c.; 1901, 7½@8c.; 1911, 20@23c.; 1913, 12@13c.; 1918, October, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.32	$0.26	$0.14	$0.14
February	.25	.24	.14	.14
March	.24	.23½	.13	.12
April	.27	.24	.13	.13
May	.28	.27	.15	.12½
June	.26	.26	.15	.14½
July	.26	.20	.15	.14½
August	.24½	.21	.15	.14½
September	.20	.19	.14½	.14½
October	.18½	.17	.14½	.13½
November	.17¼	.17	.13¾	.13¼
December	.17¼	.15	.13	.13
Year	.32	.15	.15	.12

Ten Years' Prices

	Per pound	
	H.	L.
1921	$0.15	$0.12
1920	.32	.15
1919	.55	.32
1918	.70	.26½
1917	.30	.18
1916	.30	.18¼
1915	.35	.14
1914	.40	.14
1913	.45	.12
1912	.30	.15

Coriander, Bleached

On October 18, 1871, the price was 9c.; 1881, 5@6c.; 1891, 3¼@4c.; 1901, 3@3½c.; 1911, 3¾@4c.; 1913, 6¼@6½c.; 1917, June, 25½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.09	$0.09	$0.07	$0.07
February	.09	.09	.07	.07
March	.09	.08	.07	.07
April	.08	.08	.07	.07
May	.08	.08	.07½	.06½
June	.08	.08	.07½	.07½
July	.07½	.07½	.07½	.07
August	.07½	.07½	.08	.07
September	.07½	.07½	.09	.08
October	.07½	.07½	.09	.09
November	.07½	.07½	.09	.08½
December	.07½	.07	.08½	.08½
Year	.09	.07	.09	.06½

Foenugreek

On November 22, 1871, the price for powdered seed was 6@7c.; October 18, 1881, whole seed, 3½@4c.; 1891, 2¼@2⅝c.; 1901, 1⅞@2c.; 1911, 2½@2⅝c.; 1913, 3@3½c.; 1918, May, 15c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.04½	$0.04½	$0.02½	$0.02
February	.04½	.04	.03	.02¼
March	.04	.03½	.03	.02¾
April	.03½	.03¼	.02¾	.02
May	.03¼	.03	.02	.01¾
June	.03	.02¾	.02½	.01¾
July	.02½	.02¼	.02¾	.02½
August	.02½	.02½	.03	.02¾
September	.02½	.02½	.03	.03
October	.02½	.02½	.03	.03
November	.02	.02	.03	.02¾
December	.02¼	.02	.03	.02¾
Year	.04½	.02	.03	.01¾

Mustard, California, Brown

On October 18, 1871, the price was 13@15c.; 1881, 6c.; 1891, 4¾@5c.; 1901, 4½@5c.; 1911, 6¼@6½c.; 1913, 4¾@5c.; 1918, November, 31c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.16	$0.15	$0.07	$0.07
February	.17½	.15	.06½	.06
March	.17½	.17	.05¾	.05¾
April	.17	.17	.05¾	.05½
May	Nominal		.05½	.05½
June	Nominal		.05	.05
July	Nominal		.05	.04½
August	.15½	.15	.04½	.04¼
September	.15	.10	.04½	.04½
October	.10	.09	.05¼	.04¾
November	.08¾	.08	.05¼	.05¼
December	.08	.07	.05½	.05¼
Year	.17½	.07	.07	.04¼

Stramonium

On April 2, 1878, the price of powder was 18@20c.; October 18, 1881, 8@9c.; 1901, 9c.; 1911, 8@8½c.; 1913, 8@8½c.; 1918, June, 45c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.24	$0.24	$0.24	$0.24
February	.24	.24	.24	.24
March	.24	.24	.24	.24
April	.24	.24	.24	.24
May	.24	.24	.24	.24
June	.24	.24	.24	.24
July	.24	.24	.24	.24
August	.24	.24	.24	.24
September	.24	.24	.24	.24
October	.24	.24	.24	.24
November	.24	.24	.24	.24
December	.24	.24	.24	.14
Year	.24	.24	.24	.14

Worm, American

On April 2, 1878, the price of powder was 12@15c.; October 18, 1881, 5@6c.; 1901, 9½@10c.; 1911, 6@7c.; 1913, 10@11c.; 1920, August, 30c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.24	$0.24	$0.19	$0.19
February	.28	.28	.19	.19
March	.28	.28	.16	.16
April	.28	.28	.16	.12
May	.28	.28	.12	.12
June	.28	.28	.12	.12
July	.28	.28	.12	.12
August	.30	.28	.12	.10
September	.30	.30	.10	.10
October	.30	.30	.10	.10
November	.30	.30	.10	.10
December	.25	.19	.10	.10
Year	.30	.19	.19	.10

Worm, Levant

On April 2, 1878, the price of powder was 26@27c.; October 18, 1881, 10½@11c.; 1901, 8@10c.; 1911, 19@20c.; 1913, 30@33c.; 1920, July, $1.45.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.25	$1.25	$1.30	$1.10
February	1.25	1.25	1.10	1.10
March	1.25	1.25	1.10	1.10
April	1.25	1.25	1.10	1.10
May	1.40	1.25	1.10	1.10
June	1.30	1.30	1.20	1.10
July	1.45	1.30	1.20	1.20
August	1.45	1.45	1.20	1.20
September	1.45	1.45	1.30	1.30
October	1.45	1.40	1.30	1.30
November	1.40	1.40	1.30	1.30
December	1.30	1.30	1.30	1.30
Year	1.45	1.25	1.30	1.10

SPICES

Cloves, Zanzibar

On May 28, 1875, the price for ground was 41@50c.; October 18, 1881, 29@30c.; 1891, 8@8¼c.; 1901, 8@8¼c.; 1911, 16½@17c.; 1913, 16½@16¾c.; 1919, December, 55c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.50	$0.50	$0 24	$0.20
February	.50	.49	.18	.18
March	.49	.49	.20	.16
April	.49	.48	.19	.18¾
May	.47½	.45	.18½	.18
June	.44	.42	.18	.17½
July	.42	.33	.20	.17
August	.34	.29	.24	.20½
September	.34	.30	.26¾	.24
October	.35	.34	.31	.27
November	.33	.28	.37½	.36
December	.27	.24	.35½	.35
Year	.50	.24	.37½	.16

Twenty-one Years' Prices

	Per pound	
	H.	L.
1921	$0.37½	$0.16
1920	.50	.24
1919	.55	.19
1918	.49	.43
1917	.55	.19½
1916	.29	.16½
1915	.21	.15¼
1914	.22	.14½
1913	.21½	.15
1912	.20½	.10⅜
1911	.19	.12
1910	.15½	.10
1909	.11½	.09½
1908	.12	.10
1907	.18½	.11
1906	.15	.13
1905	.14½	.08½
1904	.19	.13
1903	.10½	.07½
1902	.09	.08
1901	.09½	.07⅞

Nutmegs, 105s to 110s

On January 12, 1881, the price of prime to ordinary was 72½@3c.; October 18, 1881, 65@84c.; 1891, 105s to 110s, 60@61c.; 1901, 22½@23c.; 1911, 14¾@15c.; 1913, 14@14¼c.; 1918, August, 39c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.32	$0.32	$0.17	$0.17
February	.32	.31	.17	.17
March	.31½	.31½	.17	.17
April	.31½	.31½	.16	.15
May	.31½	.31	.15	.14½
June	.31	.29	.17	.15
July	.29	.27	.17	.15
August	.27	.25	.16	.15
September	.24	.24	.16	.15
October	.23	.21	.14½	.14
November	.19	.19	.17¼	.15
December	.18	.17	.17½	.17¼
Year	.32	.17	.17½	.14

Pepper, Singapore Black

On April 28, 1875, the price of ground was 18@25c.; October 18, 1881, 16½@17c.; 1891, 8½@8¾c.; 1901, 12⅝@12¾c.; 1911, 11⅜@11½c.; 1913, 11⅜@12c.; 1918, May, 28½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.18½	$0.17¾	$0.10½	$0.08½
February	.18½	.18	.10½	.10½
March	.18	.17	.10½	.10¼
April	.17	.16½	.10	.09¾
May	.15¾	.14	.09¼	.09
June	.14	.13½	.09½	.08¾
July	.13	.13	.09	.08¾
August	.12¾	.12½	.08¾	.08¼
September	.12¾	.12½	.08¾	.08¼
October	.13½	.12	.08½	.08
November	.12	.09½	.08½	.08
December	.09½	.08½	.09	.08
Year	.18½	.08½	.10½	.08

Pepper, Lampong

On April 28, 1875, the price on ground was 18@25c.; October 18, 1881, 16½@17c.; 1891, 8½@8¾c.; 1901, 12⅝@12¾c.; 1911, 11@11¼c.; 1913, 10¾@11c.; 1918, May, 28½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.17¾	$0.15¾	$0.10¼	$0.08½
February	.17¾	.16	.10	.10
March	.16¼	.15¾	.10¼	.10
April	.16¼	.15¾	.10	.09
May	.15½	.13½	.09¼	.09
June	.13½	.13	.09½	.08¼
July	.13	.13	.08½	.08
August	.13¾	.12¼	.08½	.08½
September	.13¾	.12½	.08	.07½
October	.12½	.11¼	.07¼	.07
November	.11¼	.09½	.07	.06¾
December	.09¼	.08½	.07¼	.06½
Year	.17¾	.08½	.10¼	.06½

Pepper, Singapore, White

On April 28, 1875, the price on powder was 30@36c.; October 18, 1881, 22½@23½c.; 1891, 14⅜@15c.; 1901, 19½@19⅝c.; 1911, 16¾@17c.; 1913, 20@20½c.; 1919, August, 34¾c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.30¼	$0.29	$0.17½	$0.16½
February	.30	.28½	.17½	.17½
March	.28½	.28	.17	.16½
April	.28½	.27	.16	.16
May	.26¾	.24½	.16	.15¼
June	.25½	.24½	.15½	.15¼
July	.25	.23½	.15¼	.15
August	.24½	.22½	.15	.14½
September	.24½	.24	.14¾	.14½
October	.23½	.22½	.14¾	.14
November	.22½	.19½	.14¾	.14
December	.19½	.17	.14	.13¾
Year	.30½	.17	.17½	.13¾

Peppers, Chillies, Japan, No. 1

On April 28, 1875, the price of ground African was 30@32c.; October 18, 1881, Bombay, 13@14c.; 1891, Bombay, 8½@9c.; 1901, Japan, 10¾@11c.; 1911, 12@12¼c.; 1913, 8¼@8¾c.; 1921, October, 42c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.25	$0.24	$0.24
February	.28	.28	.27	.21½
March	.30	.28	.30	.27
April	.32	.32	.30	.30
May	.35	.34	.30	.30
June	.35	.35	.30	.30
July	.35	.35	.30	.30
August	.35	.35	.40	.30
September	.35	.35	.40	.40
October	.35	.24½	.42	.40
November	.24½	.24	.42	.42
December	.24	.24	.42	.42
Year	.35	.24	.42	.21½

DRUGS AND PHARMACEUTICAL CHEMICALS

For convenience, the divisions of the opium and mercurial groups are arranged alphabetically under "Mercury" and "Opium."

On August 10, 1891, the price was 54@56c.; October 17, 1891, 52c.; 1901, 19@21c.; 1911, 20½@23c.; 1913, 21@22c.; 1918, 80c.

Acetanilide

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.55	$0.55	$0.25	$0.25
February	.60	.55	.28	.24
March	.60	.60	.28	.27
April	.70	.60	.27	.25
May	.70	.70	.26	.22
June	.75	.75	.26	.26
July	.75	.60	.30	.26
August	.60	.55	.29	.28
September	.53	.50	.29	.29
October	.50	.45	.29	.29
November	.45	.30	.29	.29
December	.30	.25	.29	.29
Year	.75	.25	.30	.22

Acetphenetidin

On November 14, 1910, the price was 80@85c.; October 17, 1911, 82½@85c.; 1913, 84@85c.; 1917, February, $25.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.50	$2.25	$1.90	$1.70
February	2.75	2.50	1.65	1.60
March	2.75	2.25	1.60	1.60
April	2.25	2.25	1.60	1.60
May	2.50	2.25	1.50	1.50
June	2.50	2.45	1.50	1.40
July	2.45	2.45	1.40	1.40
August	2.45	2.30	1.40	1.35
September	2.30	2.30	1.35	1.35
October	2.30	2.30	1.65	1.35
November	2.30	2.10	1.65	1.65
December	2.00	1.90	1.65	1.65
Year	2.75	1.90	1.90	1.35

Alcohol

On October 18, 1871, the price of ethyl was $1.87½@1.90; 1881, ethyl, $2.18@2.20; 1891, $2.30@2.32; 1901, ethyl, $2.51@2.53; wood, 95 per cent., 60c.; 1911, ethyl, $2.56@2.58; methyl, 95 per cent., 50@52c.; denatured, 40@42c.; 1913, ethyl, $2.50@2.52; methyl, 46@47c.; denatured, 35@38c.; ethyl, 1917, October, $5.60; methyl, 1920, $3.25; denatured, 1920, May, $1.11.

	1920					
	Ethyl. 188 proof.		Per gallon. Methyl. 95%.		Denatured. No. 5.	
	H.	L.	H.	L.	H.	L.
Jan.	$5.00	$5.00	$1.52	$1.52	$0.72	$0.72
Feb.	5.10	5.00	1.85	1.52	.76	.72
March	5.10	5.10	2.35	2.35	1.01	.76
April	5.10	5.10	2.65	2.65	1.01	1.01
May	Nominal		2.65	2.65	1.11	1.11
June	Nominal		3.25	3.25	1.11	1.11
July	Nominal		3.25	3.25	1.11	1.11
Aug.	Nominal		3.25	3.25	1.11	1.11
Sept.	5.60	5.60	3.25	3.25	1.11	1.11
Oct.	5.60	5.60	3.25	2.70	1.11	1.03
Nov.	5.60	5.60	2.70	1.90	1.03	.80
Dec.	5.00	5.00	1.90	1.65	.80	.80
Year	5.60	5.00	3.25	1.52	1.11	.72

	1921					
	Ethyl, 188 proof.		Per gallon. Methyl, 95%.		Denatured, No. 5.	
	H.	L.	H.	L.	H.	L.
Jan.	$5.00	$4.90	$1.65	$1.28	$0.84	$0.67
Feb.	4.90	4.85	1.28	1.28	.67	.67
March	4.85	4.75	1.28	.77	.67	.39
April	4.75	4.75	.77	.77	.36	.36
May	4.75	4.65	.77	.77	.38	.36
June	4.65	4.65	.77	.77	.36	.36
July	4.65	4.65	.77	.77	.36	.34
Aug.	4.65	4.65	.71	.60	.36	.34
Sept.	4.65	4.65	.60	.60	.39	.35
Oct.	4.65	4.65	.60	.60	.41	.40
Nov.	4.65	4.65	.60	.57	.41	.35
Dec.	4.65	4.65	.57	.57	.38	.36
Year	5.00	4.65	1.65	.57	.84	.34

Antipyrene, Bulk

On October 10, 1914, the price was 22@28c.; 1917, September, $23.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$6.10	$5.60	$2.50	$2.00
February	6.25	6.10	1.80	1.50
March	7.50	6.75	2.00	1.50
April	6.75	6.50	1.90	1.90
May	6.50	6.50	1.90	1.85
June	6.00	5.75	2.25	1.90
July	5.75	4.50	2.25	2.25
August	4.50	4.00	2.25	2.20
September	4.10	3.75	2.20	2.10
October	3.75	3.25	2.00	1.90
November	3.25	3.00	1.80	1.75
December	2.90	2.50	1.80	1.75
Year	7.50	2.50	2.50	1.50

Cable Address:
"CELAITCH" NEW YORK
ABC-5th Improved
Bentley's Improved
Western Union
Private } Codes

Established 1910

Phones:
John 6186 to 6193
Long Distance 640-641

CHAS. L. HUISKING, Inc.

5 PLATT STREET
NEW YORK CITY

Brokers and Commission Merchants

Drugs, Chemicals, Oils, Spices, Patent Medicines, Druggists' Sundries and all lines allied with the Drug Trade.

New York Buying Agents for the Wholesale Drug Trade of the United States, and American Purchasing Agents for Wholesalers in All Parts of the World.

Selling Agents for

Ferd. Baller & Co.	Catania, Sicily	Oils, Lemon, Orange, Bergamot, Licorice Extract, Etc.
Joseph Gazan	Marseilles, France	Essential Oils
Gignoux, Freres & Barbezat	Decines, France	Extract Malefern, Pharmaceutical Extracts and all French Products
Jivanlal & Co.	Bombay, India	Indian Produce
Chas. Lowe & Co.	Manchester, England	Carbolic Acid
Arthur Oulmann & Co.	Leghorn, Italy	Italian Produce
Fox Roy & Co.	Plymouth, England	Arsenic
Alfred Gaussen	Nimes, France	Crude Drugs
Isdahl & Co.	Bergen, Norway	Cod Liver Oil
W. Krug & Co.	Amsterdam, Holland	Spices
"Oranje," Ltd.	Amsterdam, Holland	Essential Oils
Fabbrica Chimica Arenella	Palermo, Sicily	Largest Makers Citric Acid, Tartaric Acid, Cream of Tartar
E. Conti & Figli	Leghorn, Italy	Conti Soap
Thomas Hubbuck & Son, Ltd.	London, England	Oxide of Zinc
Whiffen & Sons, Ltd.	London, England	Oil of Sandalwood

Etc., Etc., Etc.

London Correspondents

CHAS. L. HUISKING, Ltd.

74 GREAT TOWER STREET, E. C. 3. LONDON, ENGLAND

Buying and Selling Agents for American Houses

Cable Address:
"CELAITCH" LONDON

ABC-5th Improved
Bentley's Improved
Western Union
Private
} Codes

Aspirin, Powdered

On March 10, 1917, the price was $3.50.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.95	$0.95	$0.70	$0.65
February	.95	.95	.63	.62
March	.95	.95	.60	.58
April	.95	.90	.55	.53
May	.95	.90	.58	.50
June	.93	.90	.58	.50
July	.90	.90	.60	.60
August	.90	.90	.60	.60
September	.90	.90	.60	.55
October	.88	.88	.56	.55
November	.86	.80	.65	.56
December	.80	.70	.75	.70
Year	.95	.70	.75	.50

Bismuth, Ammonium Citrate

On October 18, 1871, the price was $8.00; 1881, $4.65; 1891, $2.65; 1901, $1.75; 1911, $2.20; 1913, $2.75; 1919, July, $5.80.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.70	$5.60	$5.40	$5.30
February	5.60	5.60	5.20	5.00
March	5.60	5.60	5.00	5.00
April	5.80	5.80	5.00	5.00
May	5.80	5.80	5.00	5.00
June	5.80	5.80	5.00	5.00
July	5.80	5.80	5.00	5.00
August	5.80	5.80	5.00	5.00
September	5.80	5.80	5.00	5.00
October	5.80	5.80	5.00	5.00
November	5.55	5.40	5.00	5.00
December	5.40	5.40	5.00	5.00
Year	5.80	5.40	5.40	5.00

Bismuth, Subnitrate, Powdered

On May 6, 1875, the price was $2; October 18, 1881, $1.85; 1891, $1.90; 1901, $1.40@1.45; 1911, $1.80@1.85; 1913, $1.80@1.85; 1918, April, $3.20

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.75	$2.65	$2.60	$2.60
February	2.75	2.75	2.35	2.00
March	2.65	2.65	2.00	2.00
April	2.85	2.85	2.00	2.00
May	2.85	2.85	2.00	1.85
June	2.85	2.85	1.80	1.80
July	2.85	2.85	1.80	1.80
August	2.85	2.85	1.80	1.80
September	2.85	2.85	1.80	1.80
October	2.85	2.85	1.80	1.80
November	2.85	2.60	1.80	1.80
December	2.60	2.60	1.80	1.80
Year	2.85	2.60	2.60	1.80

Bromine, Purified

On October 18, 1871, the price was 90c.; 1885, 33c.; 1891, 17¾@40c.; 1901, 48@53c.; 1911, 25@30c.; 1913, 30@35c.; 1919, December, 85c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.85	$0.85	$0.53	$0.53
February	.85	.85	.53	.53
March	.85	.85	.53	.40
April	.85	.85	.27	.27
May	.85	.85	.27	.27
June	.85	.85	.27	.27
July	.85	.85	.27	.27
August	.95	.85	.27	.27
September	.95	.95	.27	.27
October	.95	.75	.27	.27
November	.75	.53	.27	.27
December	.53	.53	.27	.27
Year	.95	.53	.53	.27

Borax

On October 18, 1871, the price was 32@33c.; 1881, 12½@13¼c.; 1891, 8¾@8¾c.; 1901, 7¼@7½c.; 1911, 3½@3¾c.; 1913, 3¾@4c.; 1920, January, 8½c.

	Per pound			
	1920.		1920.	
	In sacks.		In barrels.	
	H.	L.	H.	L.
January	$0.08¼	$0.07¾	$0.08½	$0.08¼
February	.08¼	.08¼	.08½	.08½
March	.08¼	.08¼	.08½	.08½
April	.08¼	.08¼	.08½	.08½
May	.08¼	.08¼	.08½	.08½
June	.08¼	.08¼	.08½	.08½
July	.08¼	.08¼	.08½	.08½
August	.08¼	.08¼	.08½	.08½
September	.08¼	.08¼	.08½	.08½
October	.08¼	.08¼	.08½	.08½
November	.08¼	.08¼	.08½	.08½
December	.08¼	.06¾	.08½	.07¼
Year	.08¼	.06¾	.08½	.07¼

	Per pound			
	1921.		1921.	
	In sacks.		In barrels.	
	H.	L.	H.	L.
January	$0.06¾	$0.06¾	$0.07¼	$0.07¼
February	.06¾	.06¾	.07¼	.07¼
March	.06	.06	.06½	.06½
April	.06	.06	.06½	.06½
May	.05¾	.05½	.06¼	.05¾
June	.05½	.05½	.05¾	.05¾
July	.05½	.05½	.05¾	.05¾
August	.05½	.05½	.05¾	.05¾
September	.05½	.05½	.05¾	.05¾
October	.05½	.05½	.05¾	.05¾
November	.05½	.05½	.05¾	.05¾
December	.05½	.05½	.05¾	.05¾
Year	.06¾	.05½	.07¼	.05¾

Bromides

On June 7, 1872, the price of ammonium was $1.90@1.95; potassium, May 29, 1872, $1.20@1.30; sodium, $3.50@3.60; October 18, 1881, ammonium, 42c.; potassium, 29@30c.; sodium, 42c.; 1891, ammonium, 36c.; potassium, 24@26c.; sodium, 36c.; 1901, ammonium, 55c.; potassium, 46@47c.; sodium, 51c.; 1911, ammonium, 41@42c.; potassium, 31@34c.; sodium, 37@38c.; 1913, ammonium, 49@50c.; potassium, 39@40c.; sodium, 45@46c.; ammonium, 1917, January, $1; potassium, 1917, November, $1.45; sodium, 1920, June, 85c.

	1920					
	Per pound, granular.					
	Bromide ammonium.		Bromide potassium.		Bromide sodium.	
	H.	L.	H.	L.	H.	L.
January	$0.80	$0.80	$0.85	$0.85	$0.75	$0.75
February	.80	.80	.85	.85	.75	.75
March	.80	.80	.85	.85	.75	.75
April	.80	.80	.85	.85	.75	.75
May	.80	.80	.85	.85	.75	.75
June	.90	.90	.95	.90	.85	.85
July	.90	.90	.95	.95	.85	.85
August	.70	.70	.75	.75	.65	.65
September	.70	.70	.75	.75	.65	.65
October	.70	.59	.75	.62	.65	.55
November	.59	.49	.62	.47	.54	.42
December	.49	.49	.44	.44	.42	.42
Year	.90	.49	.95	.44	.85	.42

	1921					
	Per pound, granular.					
	Bromide ammonium.		Bromide potassium.		Bromide sodium.	
	H.	L.	H.	L.	H.	L.
January	$0.49	$0.49	$0.44	$0.44	$0.42	$0.42
February	.49	.49	.44	.44	.42	.42
March	.49	.39	.44	.34	.42	.32
April	.39	.34	.34	.29	.32	.27
May	.34	.34	.29	.24	.27	.25
June	.34	.34	.24	.24	.25	.25
July	.34	.34	.24	.24	.25	.25
August	.34	.34	.24	.24	.25	.25
September	.34	.27	.24	.19	.25	.20
October	.27	.27	.19	.19	.20	.20
November	.27	.27	.19	.19	.20	.20
December	.27	.27	.19	.19	.20	.20
Year	.49	.27	.44	.19	.42	.20

Camphor Monobromated

On November 4, 1907, the price was $1.40@1.50; October 18, 1911, 95@1.05; 1913, $1@1.10; 1919, December, $5.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.00	$5.00	$2.75	$2.50
February	5.00	5.00	2.25	2.25
March	5.00	5.00	2.25	2.25
April	5.00	4.50	2.00	1.75
May	4.50	4.00	1.75	1.75
June	4.00	4.00	1.75	1.75
July	4.00	3.50	1.75	1.60
August	3.50	3.50	1.60	1.60
September	3.50	3.50	1.60	1.60
October	3.50	3.05	1.60	1.60
November	3.05	2.75	1.70	1.60
December	2.75	2.75	1.70	1.60
Year	5.00	2.75	2.75	1.60

Cantharides, Chinese

On October, 1871, the price was $1.60; 1881, 90@95c.; 1891, 95c.; 1901, 61@65c.; 1911, 18@20c.; 1913, 45@50c.; 1920, January, $1.40.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.40	$1.35	$0.80	$0.75
February	1.40	1.40	.75	.75
March	1.40	1.15	.75	.75
April	1.15	1.15	.75	.75
May	1.20	1.15	.85	.75
June	1.20	1.20	.85	.85
July	1.20	1.20	.85	.75
August	1.20	1.20	.75	.75
September	1.20	1.20	.75	.75
October	1.20	1.20	.80	.75
November	1.20	.85	.90	.80
December	.85	.80	.95	.95
Year	1.40	.80	.95	.75

Caffeine, Alkaloid

On August 20, 1894, the price was $3@3.10; October 18, 1901, $3.75@4; 1911, $3.15@3.25; 1913, $3.40@3.50; 1918, April, $13.50.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$7.00	$7.00	$6.60	$6.25
February	7.25	7.25	6.15	6.00
March	7.25	7.25	6.00	6.00
April	7.25	7.25	6.25	6.25
May	7.75	7.25	6.15	5.90
June	7.75	7.75	5.90	5.75
July	8.35	7.85	5.60	5.40
August	8.50	8.00	5.50	4.75
September	8.00	7.50	4.75	4.60
October	7.50	7.50	4.75	4.50
November	7.50	6.75	4.50	4.35
December	6.75	6.60	4.25	4.00
Year	8.50	6.60	6.60	4.00

Castor Oil, Medicinal

On October 18, 1871, the price was 18@19c.; 1881, 14½c.; 1891, 12c.; 1901, 12c.; 1911, 10½c. 1913, 9⅝@9½c.; 1918, August, 30c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.20	$0.20	$0.12	$0.11
February	.20	.20	.11	.11
March	.20	.20	.11	.10
April	.20	.20	.10	.08¼
May	.20	.20	.10	.08¼
June	.20	.19	.10	.10
July	.19	.18	.11	.10
August	.17½	.17½	.11	.11
September	.17	.17	.11	.11
October	.17	.15	.11½	.11
November	.15	.14	.11½	.11½
December	.14	.12	.11½	.11½
Year	.20	.12	.12	.08¼

Chloral Hydrate

On February 25, 1874, the price was $1.90; October 18, 1881, $1.35@1.80; 1891, $1.05@1.15; 1901, 95c.@$1; 1911, 74@76c.; 1913, 61@64c.; 1918, April, $2.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.95	$0.95	$1.00	$1.00
February	.95	.95	1.00	.93
March	.95	.95	.93	.85
April	.95	.95	.85	.85
May	.95	.95	.83	.83
June	1.05	.95	.90	.85
July	1.05	1.05	.90	.90
August	1.05	1.05	.75	.75
September	1.05	1.00	.75	.75
October	1.00	1.00	.75	.75
November	1.00	1.00	.75	.75
December	1.00	1.00	.85	.85
Year	1.05	.95	1.00	.75

Chloroform, U. S. P.

On February 25, 1874, the price was $1.05; October 18, 1881, 65c.; 1891, 50@55c.; 1901, 45@55c.; 1911, 25@33c.; 1913, 25@30c.; 1917, November, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.30	$0.30	$0.43	$0.40
February	.30	.30	.40	.40
March	.30	.30	.40	.40
April	.35	.30	.40	.40
May	.40	.40	.40	.36
June	.40	.40	.38	.38
July	.40	.40	.38	.38
August	.40	.40	.38	.35
September	.40	.40	.36	.35
October	.43	.43	.36	.36
November	.43	.43	.36	.36
December	.43	.43	.37	.36
Year	.43	.30	.43	.35

Citrate Potash

On May 29, 1872, the price was $1@1.05; October 18, 1881, 60c.; 1891, 50c.; 1901, 33c.; 1911, 38c.; 1913, 48c.; 1919, January, $2.02.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.78	$1.78	$1.60	$1.53
February	1.78	1.78	1.53	1.38
March	1.78	1.78	1.38	1.38
April	1.78	1.78	1.38	1.15
May	1.78	1.78	1.15	1.15
June	1.78	1.78	1.15	.68
July	1.78	1.78	.68	.68
August	1.78	1.78	.68	.68
September	1.78	1.72	.68	.65
October	1.72	1.69	.65	.65
November	1.66	1.60	.65	.65
December	1.60	1.60	.65	.65
Year	1.78	1.60	1.60	.65

Cocaine, Hydrochloride

(Granular)

On August 10, 1891, $6.50@7; October 18, 1901, $5.50@5.55; 1911, $3.25@3.35; 1913, $3.35@3.60; 1918, June, $11.25.

	Per ounce			
	1920.		1921.	
	H.	L.	H.	L.
January	$10.75	$10.75	$10.25	$10.25
February	10.75	10.75	10.25	9.25
March	10.75	10.75	9.25	8.25
April	10.75	10.75	8.25	8.25
May	10.75	10.75	8.25	8.25
June	10.75	10.75	8.25	7.25
July	10.75	10.75	7.25	6.75
August	10.75	10.75	6.75	6.75
September	10.75	10.75	6.75	6.25
October	10.75	10.75	6.25	6.25
November	10.75	10.75	6.25	6.25
December	10.75	10.25	6.25	6.25
Year	10.75	10.25	10.25	6.25

Cocoa Butter

On April 2, 1879, the price was 37½c.; October 8, 1881, 50c.; 1891, 32@42c.; 1901, 34½@35½c.; 1911, 45@48c.; 1913, 36@39c.; bulk, 1919, March, 52c.; fingers, 1919, September, 52c.

	1920. Per pound			
	Bulk.		Wrapped fingers in 12-lb. boxes.	
	H.	L.	H.	L.
January	$0.46	$0.46	$0.52	$0.52
February	.46	.46	.52	.52
March	.46	.42½	.50	.49
April	.42½	.42½	.49	.49
May	.45	.42½	.51	.49
June	.45	.45	.51	.51
July	.45	.45	.51	.51
August	.45	.37½	.51	.45
September	.37½	.31	.45	.43
October	.34	.34	.43	.43
November	.34	.29	.43	.42
December	.29	.26½	.42	.39
Year	.46	.26½	.52	.39

	1921. Per pound			
	Bulk.		Wrapped fingers in 12-lb. boxes.	
	H.	L.	H.	L.
January	.28	.26	.39	.37
February	.28	.28	.37	.36
March	.30	.27	.36	.36
April	.27	.24	.36	.36
May	.23	.23	.35	.35
June	.25	.23	.35	.34½
July	.23	.23	.34½	.33½
August	.25	.23	.33½	.33½
September	.25	.25	.33½	.33½
October	.29	.26	.34½	.34½
November	.30	.30	.34½	.34½
December	.30	.25¾	.32½	.32½
Year	.30	.23	.39	.32½

Codliver Oil, Newfoundland

On March 26, 1873, the price was $36@40.50; October 18, 1881, $24; 1891, $18.90@21.00; 1901, $18@19.50; 1911, $32; 1913, $24@28; 1916, July, $130.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$93.00	$93.00	$42.00	$36.00
February	93.00	90.00	35.00	35.00
March	85.00	85.00	32.00	25.00
April	85.00	85.00	25.00	19.00
May	85.00	85.00	20.00	13.00
June	85.00	85.00	20.00	20.00
July	85.00	70.00	20.00	15.00
August	65.00	65.00	15.00	15.00
September	65.00	58.00	16.50	15.00
October	55.00	50.00	16.50	16.50
November	50.00	50.00	Nominal	
December	45.00	42.00	Nominal	
Year	93.00	42.00	42.00	13.00

Codliver Oil, Norwegian

In September, 1872, the price was $60; October 18, 1881, $36@45; 1891, $23.50@32; 1901, $21.50@25; 1911; $35@37; 1913, $24.50@25; 1916, April, $150.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$108.00	$100.00	$40.00	$37.00
February	100.00	95.00	35.00	32.00
March	90.00	85.00	30.00	24.00
April	85.00	85.00	23.00	10.00
May	90.00	85.00	16.00	12.00
June	85.00	85.00	18.00	17.00
July	85.00	70.00	18.00	15.00
August	70.00	70.00	15.50	15.00
September	65.00	60.00	16.50	15.00
October	55.00	55.00	18.00	16.50
November	55.00	52.00	17.50	17.50
December	45.00	40.00	20.00	17.50
Year	108.00	40.00	40.00	10.00

Corn Syrup—42 Degrees

On February 25, 1874, the price was $9; October 18, 1881, $4@4.75; 1891, $2.90@3.25; 1901, $1.65; 1911, $2.33; 1913, $2.31; 1917, August, $6.39.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.44	$5.34	$3.14	$2.89
February	5.44	5.44	2.89	2.89
March	5.54	5.44	2.74	2.49
April	5.54	5.54	2.34	2.24
May	6.04	5.54	2.49	2.49
June	6.04	6.04	2.49	2.49
July	5.54	5.50	2.49	2.39
August	5.54	5.14	2.39	2.29
September	5.14	5.14	2.29	2.09
October	4.64	3.89	2.09	1.99
November	4.14	3.64	1.89	1.79
December	3.64	3.14	2.04	1.79
Year	6.04	3.14	3.14	1.79

Coumarin

On August 20, 1894, the price was $17@25; October 18, 1901, $4.40@4.50; 1911, $3.10@3.25; 1913, $3.10@3.24; 1918, June, 32c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$7.00	$7.00	$5.50	$5.25
February	8.00	7.00	5.10	4.75
March	7.10	7.10	4.50	4.00
April	7.10	7.10	4.00	3.75
May	7.00	7.00	4.50	3.75
June	7.00	7.00	4.60	4.50
July	7.00	6.50	4.50	4.50
August	6.50	6.50	4.50	4.35
September	6.50	6.50	4.35	4.15
October	6.50	6.00	4.15	4.15
November	6.00	5.75	4.00	3.75
December	6.00	5.50	3.75	3.75
Year	8.00	5.50	5.50	3.75

Cream of Tartar, Powder

On October 18, 1871, the price was 30½c.; 1881, 32@33c.; 1891, 23@23½c.; 1901, 9@9¾c.; 1911, 23¾@24c.; 1913, 24¾@25c.; 1918, July, 68½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.56	$0.56	$0.41	$0.31
February	.56	.56	.30	.30
March	.56	.56	.30	.30
April	.56	.56	.30	.30
May	.56	.56	.30	.29
June	.56	.56	.29	.28½
July	.56	.56	.28½	.28½
August	.56	.56	.27½	.27
September	.56	.56	.26½	.26
October	.53	.53	.26	.26
November	.53	.49	.28	.26½
December	.49	.41	.26½	.26
Year	.56	.41	.41	.26

Epsom Salt, Technical

On October 18, 1871, the price was $3; 1881, $1.50; 1891, $1; 1901, 90c.; 1911, 85c.; 1913, $1.05; 1917, June, $4.37½.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.87½	$1.87½	$1.75	$1.50
February	1.87½	1.87½	1.50	1.40
March	3.00	1.87½	1.40	1.10
April	3.00	3.00	1.12	1.10
May	3.40	3.00	1.25	1.10
June	3.50	3.40	1.10	1.10
July	3.00	3.00	1.10	1.10
August	3.00	3.00	1.10	1.10
September	3.00	3.00	1.10	1.10
October	3.00	3.00	1.10	1.10
November	3.00	1.80	1.10	1.10
December	1.75	1.75	1.10	1.10
Year	3.50	1.75	1.75	1.10

Epsom Salt, U. S. P.

On October 18, 1871, the price was $3; 1881, $1.50; 1891, $1.10; 1901, $1.25; 1911, 90c.; 1913, $1.50; 1917, June, $4.37½.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.50	$2.50	$2.75	$2.75
February	2.50	2.50	2.75	2.50
March	3.40	2.50	2.50	2.50
April	3.40	3.40	2.50	2.50
May	3.65	3.40	2.75	2.50
June	4.00	3.65	2.75	2.75
July	5.50	5.50	2.75	2.75
August	3.50	3.50	2.75	2.75
September	3.50	3.50	2.75	2.75
October	3.50	3.50	2.50	2.20
November	3.50	3.25	2.50	2.50
December	3.00	2.75	2.50	2.50
Year	5.50	2.50	2.75	2.20

Formaldehyde

On April 11, 1898, the price was 19@20c.; October 18, 1901, 16@17c.; 1911, 8½@9½c.; 1913, 8½@9½c.; 1920, March, 85c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.51	$0.35	$0.18½	$0.17½
February	.52	.45	.18	.17½
March	.85	.58	.17	.15
April	.63	.58	.15	.14½
May	.63	.57	.14½	.14
June	.55	.50	.14	.13
July	.55	.50	.13	.12½
August	.50	.49	.12½	.12
September	.44	.44	.12	.11
October	.44	.27	.11	.11
November	.27	.16	.11	.10½
December	.20	.16	.10½	.10½
Year	.85	.16	.18½	.10½

Fusel Oil, Refined

On January 3, 1898, the price was 55@60c.; October 18, 1901, 60@75c.; 1911, $3@3.25; 1913, $1.35@1.50; 1918, January, $5.75.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.50	$3.85	$4.00	$4.00
February	5.00	4.50	4.00	4.00
March	5.00	5.00	4.00	4.00
April	5.00	5.00	4.00	4.00
May	5.00	5.00	4.00	4.00
June	5.00	5.00	4.20	4.20
July	5.00	5.00	2.50	2.50
August	5.00	5.00	2.50	2.50
September	5.00	5.00	2.50	2.50
October	5.00	4.00	2.50	2.50
November	4.00	4.00	2.50	2.50
December	4.00	4.00	2.50	2.50
Year	5.00	3.85	4.00	2.50

Glycerin C. P.

On May 29, 1872, the price was 58@80c.; October 18, 1881, 36@65c.; 1891, 15@18c.; 1901, 14½@14¾c.; 1911, 20c.; 1913, 21c.; 1917, October, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.24	$0.20	$0.19
February	.25	.24	.20	.19
March	.24	.23½	.19	.18
April	.23½	.23½	.17½	.17
May	.27	.24	.17	.16½
June	.28	.28	.16½	.15½
July	.28½	.28	.15½	.14½
August	.28½	.28	.14¾	.14
September	.28½	.28½	.14½	.14¼
October	.28	.26	.14½	.14
November	.26	.21½	.14½	.14
December	.21	.20	.16	.15
Year	.28½	.20	.20	.14

Ten Years' Prices

	Per pound	
	H.	L.
1921	$0.20	$0.14
1920	.28½	.20
1919	.24	.20
1918	.68	.52
1917	.70	.52
1916	.60	.36½
1915	.65	.19¾
1914	.27	.19¾
1913	.21	.18¾
1912	.20	.16

Glycerin, Dynamite

On Decmeber 30, 1895, the price was 14¾@15c.; October 18, 1901, 13@13¼c.; 1911, 16¼@16½c.; 1913, 19¾@20c.; 1917, October, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.24¼	$0.23½	$0.17½	$0.15½
February	.23	.22½	.17	.16½
March	.22¾	.21¾	.15	.13½
April	.22½	.21¾	.13	.13
May	.26½	.25	.15	.14
June	.27½	.27½	.14	.12½
July	.28¾	.27½	.12¼	.11¾
August	.28	.28	.13	.12½
September	.28	.28	.12½	.12
October	.28	.28	.12¼	.12¼
November	.25	.17	.12½	.12½
December	.17	.15½	.15	.13
Year	.28¼	.15½	.17½	.11¾

Glycerin, Soaplye

On August 1, 1904, the price was 9¼@9¾c.; October 18, 1911, 12½@13c.; 1913, 14¼@14½c.; 1917, October, 51c.

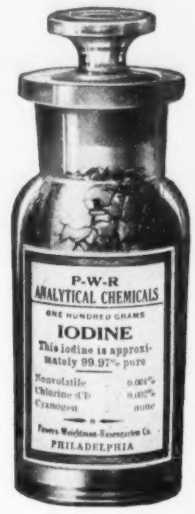
	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.17	$0.15½	$0.13	$0.08½
February	.14½	.14	.12	.10½
March	.14	.13½	.10	.09
April	.14¼	.13½	.10	.08½
May	.18	.15½	.10½	.09
June	.18	.18	.09	.09
July	.18	.18	.08	.07½
August	.18	.17½	.08½	.08
September	.17½	.17½	.08½	.08½
October	.17½	.14	.08½	.08
November	.14	.10½	.08	.08
December	.10½	.08½	.09¾	.09
Year	.18	.08½	.14	.07½

Glycerin, Saponification

On August 1, 1904, the price was 11@11½c.; October 18, 1911, 14½@15c.; 1913, 16½@17c.; 1917, October, 55c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.18½	$0.17	$0.18	$0.10½
February	.15½	.15	.13	.11½
March	.15½	.15	.11	.10
April	.15½	.15	.11	.10
May	.20	.16½	.11½	.10
June	.20	.20	.10	.10
July	.20	.19	.09	.08
August	.20	.19	.09	.09
September	.19	.19	.09	.09
October	.19	.15½	.09	.09
November	.15½	.11	.09	.09
December	.11	.10¼	.11	.10
Year	.20	.10½	.18	.08

CHEMICALS



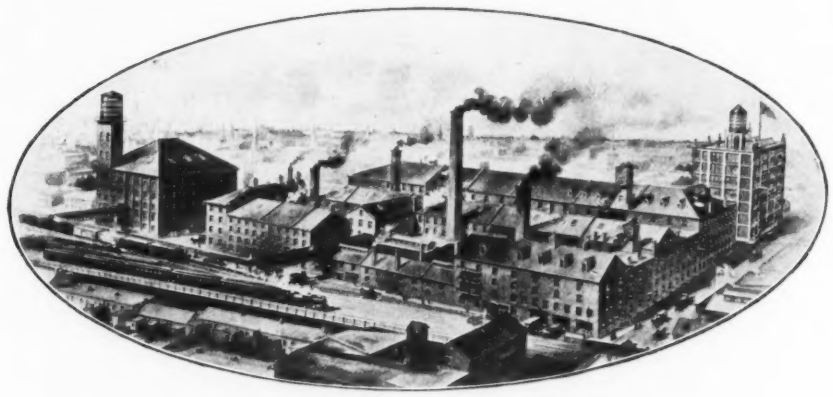
MEDICINAL

TECHNICAL

PHOTOGRAPHIC

ANALYTICAL

CATALOGUES ON REQUEST



MAIN OFFICES AND LABORATORIES, PHILADELPHIA

POWERS-WEIGHTMAN-ROSENGARTEN CO.

FOUNDED 1818

Manufacturing Chemists

New York PHILADELPHIA St. Louis

Harlem Oil, Domestic

On May 29, 1872, the price of foreign oil was $3.50@3.60; October 18, 1901, foreign, ±2@2.10; 1911, foreign, $1.85@2; 1913, foreign, $2; 1918, domestic, $8.50.

	Per gross bottles			
	1920.		1921.	
	H.	L.	H.	L.
January	$3.75	$3.75	$3.25	$3.25
February	3.75	3.75	3.25	3.25
March	3.75	3.75	3.25	3.00
April	3.50	3.50	3.00	3.00
May	3.50	3.50	3.00	3.00
June	3.50	3.50	3.00	3.00
July	3.50	3.50	3.00	3.00
August	3.50	3.50	3.00	3.00
September	3.50	3.50	3.00	3.00
October	3.50	3.50	3.00	3.00
November	3.50	3.50	3.00	3.00
December	3.50	3.25	3.00	3.00
Year	3.75	3.25	3.25	3.00

Hypophosphites

On August 20, 1894, the price of lime potash and soda was $1.02½@1.10; October 18, 1901, lime, 58@70c.; potash, 58@70c.; soda, 58@70c.; 1911, lime, 60@64c.; potash, 65@69c.; soda, 65@69c.; 1913, lime, 54@58c.; potash, 59@63c.; soda, 59@63c.; lime, 1917, August, $1; potash, 1917, August, $2.10; soda, 1917, $2.15; soda, 1917, August, $1.10.

1920

	Per pound					
	Lime.		Potash.		Soda.	
	H.	L.	H.	L.	H.	L.
January	$0.92	$0.92	$1.95	$1.95	$1.00	$1.00
February	.92	.92	1.95	1.95	1.00	1.00
March	.92	.92	1.95	1.95	1.00	1.00
April	.92	.92	1.95	1.95	1.00	1.00
May	.92	.90	1.95	1.75	1.00	1.00
June	.90	.90	1.75	1.75	1.00	1.00
July	.90	.90	1.75	1.75	1.00	1.00
August	.90	.90	1.75	1.75	1.00	1.00
September	.90	.90	1.75	1.75	1.00	1.00
October	.90	.90	1.75	1.75	1.00	1.00
November	.90	.90	1.75	1.75	1.00	1.00
December	.90	.85	1.75	1.50	1.00	.95
Year	.92	.85	1.95	1.50	1.00	.95

1921.

	Per pound					
	Lime.		Potash.		Soda.	
	H.	L.	H.	L.	H.	L.
January	$0.85	$0.85	$1.50	$1.50	$0.95	$0.95
February	.80	.80	1.35	1.35	1.65	1.65
March	.80	.80	1.35	1.35	1.65	1.65
April	.70	.70	1.10	1.10	.80	.80
May	.70	.70	1.10	1.10	.80	.80
June	.70	.70	1.10	1.10	.80	.80
July	.70	.70	1.10	1.10	.80	.80
August	.70	.65	1.10	.85	.80	.75
September	.65	.65	.85	.85	.75	.75
October	.65	.65	.85	.85	.75	.75
November	.65	.65	.85	.85	.75	.75
December	.65	.65	.85	.85	.75	.75
Year	.85	.65	1.50	.85	1.65	.75

Iodide, Potassium

On May 29, 1872, the price was $9; October 18, 1881, $2.10; 1891, $2.58@2.63; 1901, $2.05@2.10; 1911, $2.10@2.15; 1913, $2.95@3; 1917, November, $3.75.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$3.35	$3.35	$3.00	$3.00
February	3.35	3.10	3.00	3.00
March	3.10	3.10	3.00	2.40
April	3.35	3.10	2.40	2.40
May	3.35	3.35	2.60	2.35
June	3.35	3.35	2.65	2.60
July	3.35	3.35	2.65	2.65
August	3.35	3.35	2.65	2.65
September	3.35	3.35	2.65	2.65
October	3.35	3.35	2.65	2.65
November	3.35	3.00	2.60	2.60
December	3.00	3.00	2.90	2.60
Year	3.35	3.00	3.00	2.35

Iodine, Resublimated

On May 29, 1872, the price was $11; October 18, 1881, $3.25; 1891, $3.30@3.35; 1901, $2.70@2.75; 1911, $2.60@2.65; 1913, $3.55@3.60; 1919, August, $4.50.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.10	$4.10	$4.00	$4.00
February	4.10	4.10	4.00	3.75
March	4.10	4.10	3.75	3.75
April	4.35	4.10	3.75	3.75
May	4.35	4.35	3.75	3.60
June	4.35	4.35	3.60	3.60
July	4.35	4.35	3.60	3.50
August	4.35	4.35	3.50	3.50
September	4.35	4.35	3.50	3.50
October	4.35	4.85	3.50	3.50
November	4.35	4.00	3.50	3.50
December	4.00	4.00	3.80	3.50
Year	4.35	4.00	4.00	3.50

Magnesia Carbonate U. S. P.

On May 29, 1872, the price was 20@32c.; October 18, 1881, 18@19c.; 1911, 5¼@6¾c.; 1913, 5½@6c.; 1918, April, 25c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.21	$0.17	$0.15	$0.15
February	.17	.17	.15	.15
March	.17	.17	.15	.15
April	.17	.17	.15	.15
May	.17	.17	.14	.14
June	.17	.17	.14	.14
July	.17	.17	.14	.13
August	.18	.17	.13	.13
September	.18	.18	.13	.12
October	.18	.18	.12	.12
November	.18	.18	.12	.12
December	.18	.15	.12	.12
Year	.21	.15	.15	.12

Menthol

On April 23, 1884, the price was $8.50; October 18, 1891, $2.40@3.50; 1901, $4.25@4.50; 1911, $6; 1913, $4.10@4.25; 1920, January, $14.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$14.00	$12.75	$4.50	$4.00
February	14.00	13.75	4.50	4.40
March	13.50	13.00	4.40	4.25
April	13.25	10.00	4.00	3.85
May	10.50	9.00	3.85	3.75
June	9.00	7.50	3.75	3.75
July	6.00	5.50	4.25	4.00
August	7.50	5.75	4.35	4.35
September	7.35	7.25	4.35	4.35
October	6.50	5.65	4.75	4.50
November	5.50	4.25	4.75	4.75
December	4.00	4.00	5.25	4.75
Year	14.00	4.00	5.25	3.75

Twenty-seven Years' Prices

	H.	L.		H.	L.
1921	$5.25	$3.75	1907	$2.60	$1.90
1920	14.00	4.00	1906	2.90	2.15
1919	7.40	3.15	1905	3.00	1.75
1918	7.40	3.15	1904	6.25	2.50
1917	3.50	2.85	1903	8.00	5.25
1916	3.40	2.75	1902	7.00	3.80
1915	3.50	2.50	1901	4.75	3.50
1914	4.75	2.35	1900	3.90	2.35
1913	10.25	2.70	1899	3.00	1.20
1912	14.00	6.00	1898	2.60	2.00
1911	7.00	3.45	1897	4.20	1.85
1910	3.45	2.60	1896	4.75	2.50
1909	2.75	2.05	1895	4.75	4.00
1908	2.15	1.85			

MERCURIALS

Calomel

On June 5, 1872, the price was $1@1.35; October 18, 1881, 60@95c.; 1891, 78c.@$1.10; 1901, 86c.@$1.10; 1911, 94c.@$1.10; 1913, 60c.@$1.02½; 1918, July, $2.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.68	$1.68	$1.10	$1.10
February	1.68	1.58	1.00	1.00
March	1.58	1.58	1.00	.93
April	1.64	1.58	.93	.93
May	1.64	1.64	.93	.87
June	1.64	1.64	.87	.82
July	1.58	1.58	.82	.82
August	1.58	1.52	.82	.82
September	1.46	1.46	.82	.82
October	1.37	1.31	.82	.82
November	1.19	1.10	.82	.82
December	1.10	1.10	.82	.82
Year	1.68	1.19	1.10	.82

Mercury, Bisulphate

On November 9, 1903, the price was 55@57c.; October 18, 1911, 68@70c.; 1913, 43@47c.; 1918, July, $1.58.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.26	$1.26	$0.68	$0.68
February	1.26	1.16	.58	.58
March	1.16	1.16	.58	.51
April	1.22	1.16	.51	.51
May	1.22	1.22	.51	.44
June	1.22	1.22	.44	.39
July	1.16	1.16	.39	.39
August	1.16	1.10	.39	.39
September	1.04	1.04	.39	.39
October	.95	.89	.39	.39
November	.77	.68	.39	.39
December	.68	.68	.39	.39
Year	1.26	.68	.68	.39

Mercury, Red Precipitate

On November 22, 1871, the price was $1@1.05; October 21, 1885, 70c.; 1891, 91@94c.; 1901, 96@98c.; 1911, $1.04@1.14; 1913, 79@89c.; 1918, July, $2.19.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.85	$1.85	$1.19	$1.19
February	1.85	1.74	1.10	1.10
March	1.74	1.74	1.10	1.03
April	1.81	1.74	1.03	1.03
May	1.81	1.81	1.03	.96
June	1.81	1.81	.96	.91
July	1.74	1.74	.91	.91
August	1.74	1.67	.91	.91
September	1.60	1.60	.91	.91
October	1.50	1.43	.91	.91
November	1.29	1.19	.91	.91
December	1.19	1.19	.91	.91
Year	1.85	1.19	1.19	.91

Mercury, White Precipitate

On August 1, 1877, the price was 90c.; October 21, 1885, 75c.; 1891, 96c.@$1; 1901, $1.01@1.03; 1911, $1.09@1.14; 1913, 84@89c.; 1918, July, $2.29.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.97	$1.97	$1.39	$1.39
February	1.97	1.87	1.25	1.25
March	1.87	1.87	1.25	1.18
April	1.93	1.87	1.18	1.18
May	1.93	1.93	1.18	1.11
June	1.93	1.93	1.11	1.06
July	1.87	1.87	1.06	1.06
August	1.87	1.87	1.06	1.06
September	1.75	1.75	1.06	1.06
October	1.66	1.60	1.06	1.06
November	1.48	1.39	1.06	1.06
December	1.39	1.39	1.06	1.06
Year	1.97	1.39	1.39	1.06

Blue Mass, U. S. P.

On June 5, 1872, the price was $1@1.10; March 2, 1896, 33@34c.; October 18, 1901, 41@42c.; 1911, 46@48c.; 1913, 42@44c.; 1918, July, 95c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.81	$0.81	$0.59	$0.59
February	.81	.77	.59	.59
March	.77	.77	.59	.56
April	.80	.77	.56	.56
May	.80	.80	.56	.56
June	.80	.80	.56	.56
July	.77	.77	.56	.56
August	.77	.74	.56	.56
September	.71	.71	.56	.56
October	.66	.66	.56	.56
November	.62	.59	.56	.56
December	.59	.59	.56	.56
Year	.81	.59	.59	.56

Mercurial Ointment

33⅓ PER CENT.

On August 1, 1877, the price was 40@50c.; October 21, 1907, 30@32c.; 1911, 42@44c.; 1913, 38@40c.; 1918, July, 93c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.84	$0.84	$0.62	$0.62
February	.84	.80	.62	.62
March	.80	.80	.62	.59
April	.84	.80	.59	.59
May	.84	.84	.59	.59
June	.84	.84	.59	.59
July	.80	.80	.59	.59
August	.80	.77	.59	.59
September	.74	.74	.59	.59
October	.71	.68	.59	.59
November	.65	.62	.59	.59
December	.62	.62	.59	.59
Year	.84	.62	.62	.59

50 PER CENT.

On October 21, 1907, the price was 40@42c.; 1911, 52@54c.; 1913, 48@50c.; 1918, July, $1.30.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.10	$1.10	$0.77	$0.77
February	1.04	1.04	.77	.77
March	1.04	1.04	.77	.72
April	1.08	1.04	.72	.72
May	1.08	1.08	.72	.72
June	1.08	1.08	.72	.72
July	1.04	1.04	.72	.72
August	1.04	1.00	.72	.72
September	.96	.96	.72	.72
October	.91	.88	.72	.72
November	.82	.59	.72	.72
December	.59	.59	.72	.72
Year	1.10	.59	.77	.72

Musk, Grain Cab

On May 29, 1872, the price was 50c.; October 18, 1881, $18@26; 1891, $11@32; 1901, $9@10; 1911, $12@15; 1913, $12@15; 1919, December, $28.

	Per ounce			
	1920.		1921.	
	H.	L.	H.	L.
January	$28.00	$28.00	$28.00	$28.00
February	28.00	28.00	28.00	28.00
March	28.00	28.00	28.00	28.00
April	28.00	28.00	28.00	28.00
May	28.00	28.00	28.00	28.00
June	28.00	28.00	28.00	28.00
July	28.00	28.00	28.00	28.00
August	28.00	28.00	28.00	28.00
September	28.00	28.00	28.00	28.00
October	28.00	28.00	28.00	28.00
November	28.00	28.00	28.00	28.00
December	28.00	28.00	28.00	28.00
Year	28.00	28.00	28.00	28.00

OPIUM AND DERIVATIVES

Opium, Gum

On October 18, 1871, the price was $4; 1881, $3@3.12; 1891, $1.80@1.90; 1901, $3.12@3.19; 1911, $8; 1913, $5.75@5.90; 1917, May, $30.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$6.75	$6.75	$7.50	$7.50
February	6.75	6.75	7.50	7.00
March	6.40	6.25	7.00	6.00
April	7.50	6.25	5.50	5.50
May	7.50	7.50	5.50	5.50
June	7.50	7.50	5.50	5.50
July	7.50	7.50	5.50	5.50
August	7.50	7.50	5.75	5.50
September	7.50	7.50	5.75	5.50
October	7.50	7.50	5.50	5.50
November	7.50	7.50	5.50	5.50
December	7.50	7.50	5.50	5.50
Year	7.50	6.25	7.50	5.50

Crops and Prices for Gum Opium Since 1870

The following table shows the crops and the high and low prices for cases on spot since 1870:—

Year.	Crop, cases.	Prices H.	Prices L.
1921	1,500	$7.50	$5.50
1920	*	....	....
1919	*	22.50	6.75
1918	*	30.00	21.50
1917	*	30.00	13.50
1916	*	13.50	10.75
1915	7,500	11.00	6.90
1914	7,500	10.00	6.00
1913	8,500	6.60	5.60
1912	6,500	8.50	6.00
1911	10,500	8.50	4.70
1910	4,800	6.00	4.80
1909	4,800	6.00	4.00
1908	4,650	5.75	4.05
1907	3,000	7.00	3.45
1906	7,500	3.50	2.72½
1905	3,700	3.30	2.72½
1904	11,200	2.95	2.62½
1903	3,200	3.50	2.70
1902	10,000	3.05	2.70
1901	5,600	3.45	3.00
1900	8,200	3.45	3.00
1899	6,400	3.37½	2.80
1898	3,000	3.75	2.70
1897	7,000	2.85	1.95
1896	3,600	2.40	1.90
1895	7,500	2.30	1.60
1894	4,500	3.25	1.85
1893	2,845	3.15	1.77½
1892	7,500	1.90	1.50
1891	7,400	2.25	1.75
1890	5,300	3.85	2.00
1889	5,500	3.40	2.82½
1888	8,700	3.87½	2.65
1887	7,800	4.60	3.25
1886	7,500	3.25	2.80
1885	7,000	3.90	3.30
1884	5,000	4.10	3.50
1883	6,500	4.12½	3.50
1882	5,500	4.50	3.87½
1881	10,000	6.25	3.90
1880	2,000	7.75	4.87½
1879	4,000	5.25	4.35
1878	5,500	4.70	4.25
1877	9,500	6.70	4.75
1876	3,280	6.60	4.75
1875	6,489	7.75	5.00
1874	2,300	9.00	5.00
1873	3,200	7.90	5.95
1872	4,500	7.90	6.10
1871	7,961	6.00	4.90
1870	4,273	9.40	5.25

* Due to the conditions brought about by the European war, no statistics or even estimates of the crop of gum opium were available for 1916, 1917, 1918, 1919 or 1920.

Opium, Granular

On November 22, 1871, the price was $7.40@7.50; October 18, 1881, $5.50; 1891, $2.80@2.85; 1901, $4@4.10; 1911, $8.65@8.75; 1913, $7.35@7.40; 1917, April, $33.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$8.50	$8.50	$8.50	$8.50
February	8.50	8.00	8.50	8.00
March	8.50	8.00	8.00	7.00
April	8.50	8.00	6.50	6.50
May	8.50	8.50	6.50	6.50
June	8.50	8.50	6.50	6.50
July	8.50	8.50	6.50	6.50
August	8.50	8.50	6.75	6.50
September	8.50	8.50	6.75	6.50
October	8.50	8.50	6.50	6.50
November	8.50	8.50	6.50	6.50
December	8.50	8.50	6.50	6.50
Year	8.50	8.00	8.50	6.50

Opium, Powdered

On November 22, 1871, the price was $7.40@7.50; October 18, 1881, $5.50; 1891, $2.80@2.85; 1901, $4@4.10; 1911, $8.65@8.75; 1913, $7.30@7.35; 1917, April, $33.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$8.50	$8.50	$8.50	$8.50
February	8.50	8.00	8.50	8.00
March	8.50	8.00	8.00	7.00
April	8.50	8.50	6.50	6.50
May	8.50	8.50	6.50	6.50
June	8.50	8.50	6.50	6.50
July	8.50	8.50	6.50	6.50
August	8.50	8.50	6.75	6.50
September	8.50	8.50	6.75	6.50
October	8.50	8.50	6.50	6.50
November	8.50	8.50	6.50	6.50
December	8.50	8.50	6.50	6.50
Year	8.50	8.00	8.50	6.50

Codeine, Sulphate

On December 20, 1897, the price was $3.95; October 18, 1901, $4.20@4.50; 1911, $5.40@5.55; 1913, $5@5.15; 1917, February, $11.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$9.00	$9.00	$7.40	$7.40
February	9.00	9.00	6.60	6.60
March	9.00	9.00	6.60	5.60
April	9.00	9.00	5.35	5.20
May	9.00	9.00	5.20	5.20
June	9.00	9.00	5.20	5.20
July	9.00	9.00	5.20	5.20
August	9.00	9.00	5.20	5.20
September	9.00	9.00	4.80	4.80
October	9.00	9.00	4.80	4.80
November	9.00	8.20	5.80	5.80
December	7.40	7.40	5.80	5.80
Year	9.00	7.40	7.40	4.80

Morphine, Sulphate

On October 18, 1871, the price was $4.80; 1881, $3.65@3.75; 1891, $1.80@2.10; 1901, $1.70@1.85; 1911, $4.20@4.30; 1913, $4.20@4.30; 1917, October, $13.80.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$8.80	$8.80	$5.90	$5.90
February	8.80	8.80	5.30	5.30
March	8.80	8.80	5.30	5.30
April	8.80	8.80	5.30	5.30
May	8.80	8.80	5.30	5.30
June	8.80	7.80	5.30	5.30
July	7.80	7.80	5.30	5.30
August	7.80	7.80	5.30	5.30
September	7.80	7.80	4.90	4.90
October	7.80	7.80	4.90	4.90
November	7.80	6.85	4.90	4.90
December	5.90	5.90	4.90	4.90
Year	8.80	5.90	5.90	4.90

Potassium Permanganate, U. S. P.

On October 18, 1901, the price was 9@11c.; 1911, 9¾@10¾c.; 1913, 9¾@10c.; 1917, July, $4.10.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.69	$0.65	$0.60	$0.52
February	.70	.69	.52	.49
March	.70	.70	.45	.38
April	.80	.70	.38	.35
May	.80	.80	.35	.31
June	.80	.80	.29	.29
July	.80	.80	.29	.27
August	.80	.80	.26	.23
September	.80	.78	.23	.21
October	.78	.70	.19	.18½
November	.70	.66	.18½	.16
December	.66	.60	.16	.16
Year	.80	.60	.60	.16

Quicksilver

On October 18, 1871, the price was $63; 1881, $34; 1891, $46.50@48; 1901, $49.88@51; 1911, $47.25; 1913, $40.50; 1917, February, $140.

	Per flask of 75 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$93.00	$85.00	$50.00	$43.00
February	85.00	80.00	50.00	46.00
March	95.00	87.00	46.00	45.00
April	103.00	103.00	46.00	45.00
May	100.00	80.00	47.00	46.00
June	93.00	90.00	47.00	46.00
July	90.00	90.00	46.00	46.00
August	88.00	85.00	46.00	42.50
September	75.00	75.00	42.00	38.00
October	75.00	60.00	40.00	38.00
November	60.00	55.00	46.00	40.00
December	50.00	43.00	52.00	46.00
Year	103.00	43.00	52.00	38.00

Quinine Sulphate, American

(Manufacturer's.)

On October 18, 1871, the price was $2.50; 1881, $1.85@1.90; 1891, 24@25c.; 1901, 28c.; 1911, 14c.; 1913, 23@28c.; 1918, May, 90c.

	Per ounce			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.90	$0.90	$0.70	$0.70
February	.90	.90	.70	.70
March	.90	.90	.70	.70
April	.90	.90	.70	.70
May	.90	.90	.70	.70
June	.90	.90	.70	.70
July	.90	.90	.70	.70
August	.90	.90	.70	.70
September	.90	.90	.70	.70
October	.90	.90	.70	.70
November	.90	.80	.70	.70
December	.70	.70	.70	.60
Year	.90	.70	.70	.60

High and Low, 36 Years

Year.	H.	L.
1921	$0.70	$0.60
1920	.90	.70
1919	.90	.80
1918	.90	.75
1917	.75	.55
1916	.75	.50
1915	.75	.26
1914	.31	.26
1913	.26	.19½
1912	.19½	.14
1911	.14	.14
1910	.14	.14
1909	.15	.14
1908	.16	.15
1907	.22	.16
1906	.19	.14½
1905	.23	.19
1904	.27	.21
1903	.28	.23
1902	.28	.20
1901	.34	.27
1900	.37	.29
1899	.40	.21
1898	.25	.18
1897	.30	.15
1896	.27	.17½
1895	.28	.25
1894	.27½	.25½
1893	.25	.20
1892	.24	.20
1891	.30	.24
1890	.37	.32
1889	.40	.32
1888	.49	.40
1887	.61	.35
1886	.73	.49

Note.—Prices for bulk quinine salts based on sulphate for the years cited.

Quinine Sulphate, Java

On November 18, 1901, the price was 26½c.; October 18, 1911, 13¼@13¾c.; 1913, 21@22c.; 1919, October, $1.60.

	Per ounce			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.10	$0.90	$0.67	$0.65
February	.98	.95	.64	.62
March	.93	.80	.63	.63
April	.88	.80	.65	.63
May	.88	.88	.68	.65
June	.88	.83	.65	.65
July	.82	.82	.68	.65
August	.82	.82	.68	.65
September	.82	.82	.67	.65
October	.80	.75	.70	.68
November	.73	.55	.67½	.67½
December	.65	.52	.67½	.59
Year	1.10	.52	.68	.59

Rochelle Salt

On October 18, 1881, the price was 25c.; 1891, 25c.; 1901, 16½@17½c.; 1911, 19@19½c.; 1913, 18@18½c.; 1918, August, 46½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.39	$0.39	$0.31	$0.29
February	.39	.39	.29	.29
March	.39	.39	.29	.25
April	.39	.39	.25	.25
May	.39	.39	.25	.24
June	.39	.39	.24	.23
July	.39	.39	.23	.22
August	.39	.39	.21	.20
September	.39	.39	.21	.20
October	.39	.37	.20	.19
November	.35	.33	.19	.19
December	.33	.31	.19	.19
Year	.39	.31	.31	.19

Seidlitz Mixture

On July 14, 1875, the price was 27@28c.; October 18, 1881, 23c.; 1891, 20c.; 1901, 13½@14½c.; 1911, 15½@16c.; 1913, 14½@15c.; 1918, August, 36c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.30½	$0.30½	$0.24½	$0.23
February	.30½	.30½	.23	.23
March	.30½	.30½	.23	.21½
April	.30½	.30½	.21½	.21½
May	.30½	.30½	.21½	.21½
June	.30½	.30½	.21½	.20
July	.30½	.30½	.20	.20
August	.30½	.30½	.20	.20
September	.30½	.30½	.20	.20
October	.30½	.29	.20	.18½
November	.27½	.26	.18½	.18½
December	.26	.24½	.18½	.18½
Year	.30½	.24½	.24½	.18½

When You Came to Work on a Horse-Car—

FORTY years ago, when you came to work on a horse-car, if you had walked down William Street in New York, you would have seen Lehn & Fink's inconspicuous sign at Number 160.

If you had gone in, you would have found that we required but one floor, a cellar and a sub-cellar to house our entire business.

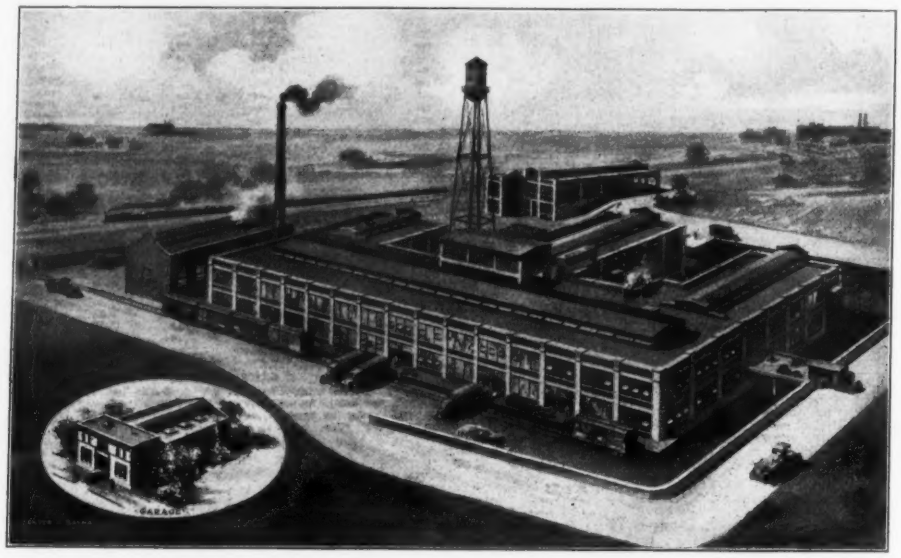
But, even then, if you had placed an order for a rare botanical or drug, you would have obtained it promptly and its quality would have been sterling.

In other words, in those small and inelegant quarters was the foundation of a great business and a great firm. On this foundation, Lehn & Fink, Inc., has built a house secure against the winds and rains of economic storms.

To-day we occupy all of a seven-story steel and concrete building at the corner of Greenwich and Morton Streets, New York. In this building we have a stock of drugs, chemicals, botanicals, oils, pharmaceuticals, sundries and specialties which is complete in every detail.

Throughout the building we have installed the most modern and practical machinery for prompt and accurate order filling. We have reduced to a real minimum the possibility of error due to the human equation. Pneumatic tubes, electric conveyors, automatic telephones and other up-to-the-minute devices, all help our staff of experienced workers to give better service to the trade.

Behind our complete mechanical equipment, we have a force of loyal, experienced workers which are the life blood of Lehn & Fink, Inc. We take pride in the fact that 100 of our employees have been with us for five years or over, 31 of them having given more than 25 years of service.



Lehn & Fink's Factory and Laboratories at Bloomfield, N. J. Home of Pebeco Tooth Paste and the "Lysol" Products

Lehn & Fink, Inc., naturally looks with justifiable satisfaction on this record of permanent progress. When you came to work on a horse-car, you could get what you wanted quickly at Lehn & Fink, and when you come to work in an aeroplane, the same will be true.

Makers of

PEBECO TOOTH PASTE

"Lysol" Disinfectant and the other "Lysol" Products

OUR SIGN IS OUR BOND

Lehn & Fink New York Inc.

635 Greenwich Street

Saccharine, Soluble

On December 11, 1905, the price was $1.50@1.75; October 18, 1911, $1.25@1.50; 1913, $1.25@1.50; 1917, August, $42.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$3.50	$3.00	$2.75	$1.70
February	3.00	3.00	2.25	2.25
March	3.00	3.00	2.25	2.25
April	3.00	3.00	2.25	2.25
May	3.50	3.00	2.25	2.00
June	3.50	3.50	2.00	2.00
July	4.00	3.50	2.00	2.00
August	3.50	3.40	2.10	2.00
September	3.50	3.00	2.10	2.10
October	3.00	3.00	2.00	2.00
November	3.00	2.50	2.00	2.00
December	3.00	2.75	2.00	2.00
Year	4.00	2.50	2.75	1.70

Salol

On August 20, 1894, the price was $3.05@3.10; October 18, 1901, $1.25@1.50; 1911, 85@90c.; 1913, 55@57½c.; 1917, January, $2.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.95	$0.95	$1.05	$0.90
February	.95	.95	.90	.90
March	.95	.95	.90	.90
April	.95	.95	.80	.80
May	.95	.95	.65	.60
June	.95	.95	.60	.60
July	.95	.95	.60	.60
August	.95	.95	.60	.60
September	.95	.95	.60	.60
October	.95	.95	.60	.60
November	.95	.95	.75	.60
December	1.05	.95	.75	.75
Year	1.05	.95	1.05	.69

Santonine, Crystals

On May 29, 1872, the price was $11@12; October 18, 1901, $5.25@5.50; 1911, $14.40@14.65; 1913, $26@26.50; 1920, May, $175.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$120.00	$99.00	$80.00	$75.00
February	125.00	110.00	88.00	80.00
March	160.00	125.00	104.00	98.00
April	160.00	160.00	110.00	110.00
May	175.00	160.00	122.00	112.00
June	175.00	175.00	123.00	122.00
July	175.00	175.00	123.00	122.00
August	175.00	175.00	122.00	122.00
September	175.00	160.00	126.00	122.00
October	160.00	160.00	135.00	126.00
November	160.00	135.00	145.00	142.00
December	80.00	80.00	147.00	142.00
Year	175.00	80.00	147.00	75.00

Sodium Benzoate

On October 18, 1901, the price was 44@46c.; 1911, 26@28c.; 1913, 23¾@24c.; 1917, January, $8.75.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.90	$0.80	$0.68	$0.68
February	.80	.80	.68	.68
March	.80	.80	.68	.68
April	.80	.80	.68	.65
May	.80	.80	.63	.55
June	.80	.80	.55	.55
July	.80	.80	.55	.53
August	.80	.73	.55	.55
September	.80	.73	.55	.55
October	.73	.73	.55	.55
November	.73	.73	.55	.55
December	.73	.68	.55	.52
Year	.90	.68	.68	.52

Strychnine, Alkaloid, Crystals

On May 29, 1872, the price was $2.75@3; October 18, 1891, $1.65@1.15; 1901, 55@80c.; 1911, 55@60c.; 1913, 50@60c.; 1920, April, $1.95.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.80	$1.80	$1.95	$1.95
February	1.80	1.80	1.95	1.95
March	1.80	1.80	1.95	1.95
April	1.95	1.95	1.95	1.95
May	1.95	1.95	1.95	1.95
June	1.95	1.95	1.95	1.95
July	1.95	1.95	1.95	1.95
August	1.95	1.95	1.70	1.70
September	1.95	1.95	1.70	1.70
October	1.95	1.95	1.70	1.45
November	1.95	1.95	1.45	1.45
December	1.95	1.95	1.45	1.45
Year	1.95	1.80	1.95	1.45

Sugar of Milk

On May 29, 1872, the price was 40@50c.; October 18, 1881, 28@31c.; 1891, 26@28c.; 1901, 13@16c.; 1911, 15@20c.; 1913, 16@17c.; 1919, January, 60c.

	Per pound— 1920 H.	L.	1921. H.	L.
January	$0.29	$0.25	$0.23	$0.22
February	.25	.25	.22	.22
March	.25	.25	.21	.20
April	.25	.25	.20	.20
May	.25	.25	.19	.18½
June	.25	.25	.18½	.17½
July	.25	.25	.17½	.17½
August	.25	.25	.17½	.17½
September	.25	.25	.17½	.17
October	.25	.25	.17	.17
November	.25	.25	.17	.17
December	.25	.23	.17	.17
Year	.29	.23	.23	.17

Tartar Emetic, Technical, Crystals

On May 29, 1872, the price was $1; October 18, 1911, 23½@25c.; 1913, 22½@23c.; 1917, November, 67c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.67	$0.67	$0.42	$0.37
February	.67	.67	.37	.34
March	.67	.67	.34	.34
April	.67	.67	.34	.34
May	.67	.67	.34	.34
June	.67	.67	.34	.34
July	.67	.67	.34	.34
August	.67	.67	.34	.34
September	.67	.62	.34	.34
October	.62	.57	.34	.34
November	.57	.47	.34	.34
December	.47	.42	.34	.31
Year	.67	.42	.42	.31

Thymol

On January 20, 1896, the price was $2; October 18, 1901, $3.15@3.25; 1911, $1.25@1.35; 1913, $1.65@1.70; 1917, November, $17.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$12.50	$12.00	$9.50	$9.00
February	12.00	12.00	9.00	8.50
March	13.50	12.00	8.00	7.50
April	15.00	13.50	8.00	7.00
May	15.00	13.00	7.00	6.25
June	13.00	12.50	6.00	6.00
July	12.50	12.00	6.00	5.75
August	12.00	11.50	5.75	5.50
September	11.50	10.00	5.50	5.25
Oceober	10.00	10.00	5.25	5.25
November	10.00	10.00	5.25	4.90
December	10.00	9.50	5.00	4.90
Year	15.00	9.50	9.50	4.90

Vanillin

On October 19, 1896, the price was $3.75@4; 1901, 70c.@$1; 1911, 33@36c.; 1913, 33@36c.; 1918, August, 90c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.85	$0.85	$0.65	$0.65
February	.85	.85	.65	.60
March	.85	.85	.62½	.60
April	.95	.95	.60	.55
May	.95	.95	.55	.50
June	.95	.95	.50	.48
July	.95	.95	.50	.50
August	.95	.95	.50	.50
September	.90	.85	.50	.50
October	.85	.85	.50	.50
November	.85	.85	.60	.58
December	.75	.65	.58	.58
Year	.95	.65	.65	.48

ESSENTIAL OILS

Almond, Bitter

On May 29, 1872, the price was $14; October 18, 1881, $4.50@7.50; 1891, $4.50@7.25; 1901, $3.50@4.25; 1911, $3.50@5; 1913, $3.50@6.50; 1917, November, $13.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$9.50	$9.50	$9.00	$9.00
February	9.50	9.50	9.00	9.00
March	9.50	9.50	9.00	7.00
April	9.50	9.50	7.00	7.00
May	9.50	9.50	7.00	7.00
June	9.00	9.00	7.00	7.00
July	9.00	9.00	7.00	7.00
August	9.00	9.00	7.00	6.40
September	9.00	9.00	6.40	6.40
October	9.50	9.50	6.40	5.75
November	9.50	9.50	5.75	5.75
December	9.50	8.50	6.25	5.75
Year	9.50	8.50	9.00	5.75

Almond, Artificial, U. S. P.

On January 20, 1902, the price was 75c.@$1; October 18, 1911, 48@85c.; 1913, 40@45c.; 1917, January, $5.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.00	$1.00	$1.00	$1.00
February	1.00	1.00	1.00	1.00
March	1.00	1.00	1.00	1.00
April	1.00	1.00	1.00	1.00
May	1.00	1.00	1.50	1.50
June	1.00	1.00	1.50	1.40
July	1.00	1.00	1.45	1.40
August	1.00	1.00	1.45	1.45
September	1.00	1.00	1.45	1.45
October	1.00	1.00	1.45	1.45
November	1.00	1.00	1.45	1.45
December	1.00	1.00	1.45	1.45
Year	1.00	1.00	1.50	1.00

Bergamot

On October 18, 1871, the price was $4.50@4.75; 1881, $2.45@2.50; 1891, $2.90@3.70; 1901, $2.50@2.75; 1911, $3; 1913, $6@6.50; 1918, September, $7.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$5.50	$5.00	$6.00	$6.00
February	5.50	5.25	6.00	5.75
March	7.50	5.25	5.75	5.50
April	7.50	7.00	5.50	4.90
May	7.00	6.50	5.75	5.75
June	7.00	6.75	5.75	5.00
July	6.75	6.00	5.00	4.75
August	6.25	6.00	5.25	4.75
September	6.25	6.25	5.50	5.25
October	7.00	6.25	5.50	5.50
November	7.00	6.25	5.25	5.15
December	6.75	6.00	5.00	5.00
Year	7.50	5.00	6.00	4.75

Cassia, Technical

On October 18, 1871, the price was $2.10@2.15; 1881, $1; 1891, 95c.@$1.10; 1901, 72½@75c.; 1911, 85@90c.; 1913, 85c.; 1918, November, $2.75.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$2.40	$2.35	$1.10	$1.10
February	2.35	2.30	1.10	1.00
March	2.30	2.25	1.00	.90
April	2.25	2.25	.85	.70
May	2.25	2.10	.75	.70
June	2.10	1.85	.75	.75
July	1.75	1.75	.75	.75
August	1.75	1.60	.85	.80
September	1.50	1.50	.85	.85
October	1.50	1.50	1.15	.88
November	1.40	1.30	1.20	1.15
December	1.20	1.10	1.25	1.25
Year	2.40	1.10	1.25	.70

Cassia, Lead Free

On February 1, 1909, the price was $1.55@1.65; October 18, 1911, $1.05@1.15; 1911, $1.05@1.15; 1913, 97½c.@$1.07½; 1918, November, $2.90.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$2.50	$2.45	$1.20	$1.20
February	2.45	2.40	1.20	1.10
March	2.40	2.35	1.10	1.00
April	2.35	2.35	1.00	.80
May	2.35	2.20	.90	.80
June	2.20	1.95	.90	.90
July	1.85	1.85	.90	.95
August	1.85	1.70	1.00	.95
September	1.60	1.60	1.00	1.00
October	1.60	1.60	1.25	1.00
November	1.50	1.40	1.30	1.25
December	1.30	1.20	1.30	1.30
Year	2.50	1.20	1.30	.80

Cassia, Redistilled

On February 8, 1909, the price was $1.75@1.85; October 18, 1911, $1.25@1.40; 1913, $1.30@1.40; 1918, November, $3.75.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$3.00	$2.90	$1.50	$1.45
February	2.90	2.85	1.45	1.40
March	2.85	2.80	1.40	1.30
April	2.80	2.80	1.30	1.15
May	2.80	2.70	1.25	1.15
June	2.70	2.50	1.25	1.25
July	2.40	2.40	1.25	1.25
August	2.40	2.15	1.35	1.25
September	2.00	2.00	1.35	1.35
October	2.00	2.00	1.65	1.55
November	1.90	1.80	1.65	1.65
December	1.70	1.50	1.65	1.65
Year	3.00	1.50	1.65	1.15

Clove

On November 22, 1871, the price was $1.40@1.50; October 18, 1881, $1.90@2; 1891, 75@77½c.; 1901, 60@62½c.; 1911, 97½c.@$1; 1913, $1.15@1.20; 1917, November, $4.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$3.85	$3.60	$1.60	$1.50
February	3.60	3.60	1.50	1.40
March	3.60	3.60	1.40	1.30
April	3.60	3.60	1.40	1.30
May	3.60	3.50	1.30	1.30
June	3.50	3.25	1.30	1.25
July	3.25	3.00	1.50	1.25
August	2.85	2.40	1.75	1.45
September	2.40	2.40	1.95	1.75
October	2.35	2.35	2.25	1.95
November	2.35	2.20	2.45	2.40
December	2.00	1.60	2.45	2.30
Year	3.85	1.60	2.45	1.25

Geranium, Rose Africa, Algeria

On November 22, 1871, the price was $8@10; October 18, 1881, $4.50@8.50; 1891, $7.50@8.50; 1901, $5.25@6.50; 1911, $4.25@4.50; 1913, $9.50@10; 1918, November, $11.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$9.50	$9.50	$7.25	$6.50
February	9.50	9.50	6.50	6.50
March	9.50	9.50	6.50	5.50
April	9.50	9.50	7.50	5.50
May	9.50	9.50	7.00	5.25
June	9.50	9.50	5.00	4.50
July	9.50	9.50	4.50	4.00
August	9.50	9.50	4.50	3.75
September	9.50	9.50	4.50	4.00
October	9.50	9.50	4.50	4.00
November	9.50	9.50	5.50	4.50
December	7.50	7.25	4.75	4.50
Year	9.50	7.25	7.25	3.75

Lemon

On October 18, 1871, the price was $3.75@5.12½; 1881, $3@3.25; 1891, $2.15@2.75; 1901, 85@95c.; 1911, $1.00@1.80; 1913, $3.75@4; 1920, March, $2.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.90	$1.45	$0.95	$0.85
February	1.90	1.75	.70	.70
March	2.00	1.75	.80	.70
April	2.00	1.85	.70	.65
May	1.85	1.75	.70	.70
June	1.75	1.60	.70	.65
July	1.65	1.40	.75	.70
August	1.40	1.25	.75	.70
September	1.10	1.10	.75	.75
October	1.15	1.10	.75	.75
November	1.10	1.10	.75	.70
December	1.00	.95	.68	.67
Year	2.00	.95	.95	.65

Twenty-one Years' Prices, Lemon

	Per pound— H.	L.
1921	$0.95	$0.65
1920	2.00	.95
1919	1.85	1.05
1918	1.85	.87½
1917	1.20	1.05
1916	1.05	.90
1915	1.25	.95
1914	3.75	1.05
1913	4.75	2.20
1912	2.10	1.30
1911	1.65	.80
1910	.82½	.75
1909	3.00	.72½
1908	1.50	.70
1907	2.00	1.00
1906	1.20	.57
1905	.57½	.55
1904	.55	.50
1903	.70	.55
1902	.80	.65
1901	1.15	.80

Lavender, Flowers

On November 22, 1871, the price was $2.90@3; October 18, 1881, $2.10; 1891, $1.30@1.75; 1901, $1.20@1.30; 1911, $2.25@3.25; 1913, $3.75@4; 1919, December, $11.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$11.00	$11.00	$7.50	$7.50
February	11.00	11.00	7.50	6.50
March	11.00	11.00	6.50	6.50
April	11.00	11.00	6.50	6.00
May	10.50	10.50	6.00	5.75
June	10.50	10.50	5.75	5.75
July	10.50	10.50	5.50	5.00
August	10.50	9.00	5.00	4.25
September	9.00	8.75	4.25	4.25
October	8.75	8.75	4.25	4.00
November	8.75	8.75	4.00	3.25
December	8.75	7.50	3.25	3.15
Year	11.00	7.50	7.50	3.15

Orange, Italian

On April 2, 1873, the price was $3.75; October 18, 1881, $3@3.25; 1891, $2.80@3.12½; 1901, $1.20@1.55; 1911, $2.45@2.60; 1913, $3.75@4; 1920, June, $11.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$6.50	$5.25	$3.50	$3.25
February	6.50	6.50	3.25	3.00
March	8.50	6.50	3.00	2.75
April	9.00	9.00	2.75	2.50
May	10.00	9.00	2.75	2.75
June	11.00	10.75	2.75	2.65
July	10.75	10.75	2.80	2.60
August	9.00	8.25	3.00	2.80
September	7.75	6.50	3.25	3.00
October	6.25	5.00	3.15	2.75
November	4.50	3.75	3.00	3.00
December	3.75	3.50	3.00	3.00
Year	11.00	3.50	3.50	2.50

Orange, West Indian

On April 1, 1915, the price was $1.35; 1920, June, $9.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$5.00	$4.00	$2.75	$2.45
February	5.00	5.00	2.75	2.75
March	7.25	5.25	2.75	2.50
April	8.00	7.50	2.65	2.40
May	8.50	8.25	2.65	2.65
June	9.00	9.00	2.65	2.50
July	9.00	8.75	2.70	2.65
August	8.75	7.75	2.90	2.70
September	7.75	6.25	2.90	2.65
October	6.00	4.50	2.65	2.60
November	4.00	3.25	2.60	2.00
December	3.25	2.45	2.00	1.90
Year	9.00	2.45	2.90	1.90

Peppermint

On October 18, 1871, the price was $3.35@3.50; 1881, $2.70@2.80; 1891, $2.50@2.80; 1901, $1.05@1.75; 1911, $2.87½@2.95; 1913, $3.70@3.80; 1919, March, $9.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$8.25	$8.00	$5.00	$4.75
February	8.25	8.25	4.50	4.25
March	8.25	8.25	3.75	3.25
April	8.25	8.00	3.25	2.60
May	8.00	7.75	2.60	2.40
June	7.50	7.00	2.40	2.25
July	7.00	7.00	2.25	2.10
August	7.00	6.90	2.10	1.75
September	6.90	6.50	2.00	1.90
October	6.50	6.35	1.85	1.75
November	6.00	5.75	1.75	1.75
December	5.75	5.00	1.70	1.70
Year	8.25	5.00	5.00	1.70

Eleven Years' Prices

	Per pound— H.	L.
1921	$5.00	$1.70
1920	8.25	5.00
1919	9.00	5.25
1918	5.25	2.90
1917	3.60	2.20
1916	2.30	1.80
1915	2.00	1.35
1914	4.60	1.40
1913	3.85	2.75
1912	2.85	2.75
1911	2.90	2.25

Sandalwood, East India

On November 22, 1871, the price was $9.50@10; October 18, 1881, $7@8; 1891, $2.10@6.00; 1901, $3.50@3.75; 1911, $2.75@3; 1913, $5.50@6; 1917, December, $14.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$10.75	$10.50	$10.00	$9.75
February	11.00	10.75	9.50	9.00
March	11.00	11.00	8.75	8.50
April	11.00	11.00	8.00	7.75
May	11.00	11.00	7.75	7.00
June	11.00	11.00	6.75	6.75
July	11.00	11.00	6.75	6.75
August	11.25	11.25	6.75	6.75
September	11.00	11.00	6.75	6.50
October	11.00	11.00	6.65	6.50
November	11.00	11.00	7.25	6.65
December	11.00	10.00	7.40	7.25
Year	11.25	10.00	10.00	6.50

Sassafras, Natural, U. S. P.

On October 18, 1871, the price was $1.15@1.20; 1881, 37½@65c.; 1891, 38@42c.; 1901, 40@43c.; 1911, 70@75c.; 1913, 55@60c.; 1918, October, $2.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.85	$1.85	$1.65	$1.65
February	1.85	1.85	1.65	1.50
March	1.85	1.85	1.50	1.40
April	1.85	1.85	1.40	1.40
May	1.75	1.75	1.40	1.35
June	1.75	1.75	1.25	1.20
July	1.75	1.75	1.20	1.20
August	1.75	1.75	1.20	1.10
September	1.75	1.75	1.10	1.10
October	1.75	1.65	1.00	1.00
November	1.65	1.65	1.00	1.00
December	1.65	1.65	1.00	1.00
Year	1.85	1.65	1.65	1.00

Spearmint

On June 5, 1872, the price was $4; October 18, 1881, $2@2.35; 1891, $1.85@2.35; 1901, $1@1.10; 1911, $4@4.50; 1913, $4; 1920, February, $13.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$13.00	$12.00	$6.25	$6.00
February	13.50	13.00	6.00	5.75
March	13.50	13.50	5.75	5.75
April	13.50	12.00	5.50	5.50
May	12.00	12.00	5.50	5.50
June	12.00	12.00	5.25	5.00
July	12.00	11.00	5.00	5.00
August	11.00	9.75	4.75	3.50
September	9.75	8.00	3.50	3.25
October	8.00	7.50	3.25	2.75
November	7.50	6.75	2.75	2.75
December	6.75	6.25	2.75	2.75
Year	13.50	6.25	6.25	2.75

Nine Years' Prices

	Per pound— H.	L.
1921	$6.25	$2.75
1920	13.50	6.25
1919	12.00	5.50
1918	5.50	3.40
1917	3.65	1.85
1916	1.90	1.50
1915	1.75	1.35
1914	4.00	1.50
1913	4.85	4.00

Wintergreen, Sweet Birch

On November 22, 1871, the price was $4.40@4.50; October 18, 1881, $3.15@3.20; 1891, $1.80@1.90; 1901, $1.40@1.60; 1911, $1.35@1.75; 1913, $1.50@2; 1919, December, $6.25.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$6.25	$6.00	$5.10	$5.10
February	6.00	6.00	5.10	5.00
March	6.00	6.00	4.75	4.00
April	6.00	6.00	4.60	4.00
May	6.00	6.00	4.00	3.25
June	6.00	6.00	3.25	3.00
July	6.00	6.00	3.00	2.85
August	6.00	6.00	3.00	2.75
September	6.00	6.00	3.00	3.00
October	5.50	5.50	3.00	2.10
November	5.50	5.50	2.10	2.10
December	5.25	5.10	2.10	2.10
Year	6.25	5.10	5.10	2.10

Wintergreen, Leaf Gaultheria

On October 18, 1901, the price was $2.25@2.90; 1911, $4.25@5; 1913, $4.25@4.50; 1919, September, $9.75.

	Per pound— 1920. H.	L.	1921. H.	L.
January	Nominal		$6.75	$6.75
February	Nominal		6.75	6.75
March	Nominal		6.75	6.75
April	Nominal		6.75	6.75
May	Nominal		6.50	6.00
June	Nominal		6.00	5.75
July	Nominal		5.75	5.75
August	Nominal		5.75	5.50
September	9.00	9.00	5.50	5.50
October	8.00	8.00	5.50	4.75
November	9.50	8.00	5.00	5.00
December	9.50	6.75	5.00	5.00
Year	9.50	6.75	6.75	4.75

Wormseed

On November 22, 1871, the price was $2.50@2.60; October 18, 1881, $2.25@2.50; 1891, $1.40@1.50; 1901, $1.10; 1911, $3.75@4; 1913, $2@2.20; 1918, July, $11.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$6.50	$6.50	$3.25	$3.25
February	6.50	6.50	3.25	3.00
March	6.50	6.50	3.00	3.03
April	6.75	6.75	3.00	2.90
May	8.50	7.00	2.90	2.75
June	9.00	9.00	2.75	2.50
July	9.25	9.00	2.25	2.25
August	9.50	9.25	2.25	2.25
September	9.50	8.75	3.00	2.25
October	8.25	5.75	3.40	3.25
November	5.25	4.50	3.40	3.40
December	4.50	3.25	4.25	4.00
Year	9.50	3.25	4.25	2.25

GUMS

Aloes, Curacao, Cases

On November 22, 1871, the price was 20@21c.; October 18, 1881, 13@15c.; 1891, 2½@5c.; 1901, 3¾@4¼c.; 1911, 7¼@7½c.; 1913, 8@8½c.; 1918, April, 11c.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.09	$0.09	$0.08½	$0.08½
February	.09½	.09	.08½	.08½
March	.10	.09½	.08½	.08½
April	.10	.10	.08	.08
May	.10	.10	.08	.08
June	.10	.10	.08	.08
July	.10	.10	.07½	.07½
August	.10	.10	.07½	.06½
September	.10	.09	.06½	.06
October	.09	.09	.07	.07
November	.09	.09	.07	.06½
December	.09	.08½	.07	.06½
Year	.10	.08½	.08½	.06

FRITZSCHE BROTHERS, Inc.

NEW YORK

Agencies:

Boston
Chicago
Columbus, Ohio
Kansas City

Philadelphia
New Orleans
San Francisco
Montreal, Canada

ESSENTIAL OILS

Aromatic Chemicals

Fritzbro Arome-Flavors

True Fruit Aroma Essences

Ethereal Fruit Oils

Amyl and Ethyl Ethers, etc., etc.

1871 Illustrations of our 50th Anniversary Souvenir *1921*

Office and Warehouse - 82-84 Beekman Street, New York City
Shipping and Receiving - - 30 Ferry Street, New York City

Twelve Years' Prices

	Per pound H.	L.
1921	$0.08½	$0.06
1920	.10	.08½
1919	.10	.08
1918	.11	.08
1917	.09½	.08
1916	.14	.09
1915	.15	.11½
1914	.16	.08
1913	.11	.06½
1912	.11½	.07¾
1911	.08	.06½
1910	.08¾	.06¾

Arabic, Cleaned Amber, Sorts

On October 18, 1871, the price was 19@21c.; 1881, 10½@12½c.; 1891, 23@25c.; 1901, 18@26c.; 1911, 11½@11¾c.; 1913, 8½@9c.; 1917, October, 33c.

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.16	$0.16	$0.13	$0.11½
February	.16	.16	.11½	.11
March	.16	.15	.11	.10½
April	.15½	.15	.10	.10
May	.15½	.15½	.11	.10
June	.15½	.15½	.11	.10
July	.15½	.15½	.10½	.10
August	.15½	.15½	.10	.10
September	.15½	.15½	.10	.09½
October	.15½	.15	.10	.10
November	.15½	.13½	.10	.09¾
December	.13½	.13	.10½	.09¾
Year	.16	.13	.13	.09½

Asafœtida, Lump

On October 18, 1871, the price was 55c.; 1881, 13@14c.; 1891, 11@15c.; 1901, 26@30c.; 1911, 75c.@$1.25; 1913, 30c.; 1919, June, $6.

	Per pound 1920. H.	L.	1921. H.	L.
January	$3.25	$3.25	$2.50	$1.95
February	3.50	3.25	1.90	1.25
March	3.60	3.50	1.25	.70
April	3.50	3.50	.70	.40
May	3.50	3.50	.40	.40
June	3.50	3.25	.38	.38
July	3.25	3.25	.37	.35
August	3.45	3.30	.35	.33
September	3.30	3.30	.33	.33
October	3.30	3.30	.33	.30
November	3.25	3.00	.30	.30
December	3.00	2.50	.33	.30
Year	3.60	2.50	2.50	.30

CAMPHOR

American, Refined

On October 18, 1871, the price was 69½@70c.; 1881, 24½@25c.; 1891, 43c.; 1901, 57@57½c.; 1911, 45@46c.; 1913, 42½c.; 1919, September, $3.30.

	Per pound, bulk, in barrels 1920. H.	L.	1921. H.	L.
January	$3.30	$3.30	$1.00	$1.00
February	3.30	3.30	1.00	1.00
March	3.30	3.30	1.00	.90
April	3.20	2.65	.90	.80
May	2.65	2.15	.80	.80
June	2.15	1.55	.80	.80
July	1.55	1.40	.75	.75
August	1.40	1.40	.75	.75
September	1.40	1.40	.75	.75
October	1.40	1.30	.85	.75
November	1.25	1.20	.92	.85
December	1.20	1.00	.92	.92
Year	3.30	1.00	1.00	.75

Twelve Years' Prices, Refined

	Per pound H.	L.
1921	$1.00	$0.75
1920	3.30	1.00
1919	3.30	2.50
1918	1.34½	.76½
1917	.89½	.74½
1916	.86½	.42
1915	.44½	.41
1914	.59½	.41
1913	.44	.42
1912	.44	.44
1911	.49½	.42
1910	.45	.42

NOTE:—Owing to the American camphor refiners' inability to secure supplies of crude beyond that necessary to meet their government contracts, they withdrew all quotations in October, 1918, when the influenza epidemic forced the rise in Japanese refined camphor to $4 per pound.

Japan, Refined, 2½-lb. Slabs

On October 18, 1871, the price was 69½@70c.; 1881, 24½@25c.; 1891, 48c.; 1901, 57@57½c.; 1911, 45@46c.; 1913, 42½@46c.; 1919, October, $3.65.

	Per pound 1920. H.	L.	1921. H.	L.
January	$3.55	$3.35	$0.90	$0.80
February	3.30	3.05	.80	.75
March	3.00	2.30	.75	.67
April	2.40	1.50	.65	.64
May	2.10	1.85	.70	.65
June	1.85	1.40	.75	.70
July	1.45	1.15	.77	.74
August	1.35	1.20	.74	.70
September	1.35	1.30	.74	.70
October	1.20	1.15	.85	.70
November	1.15	1.00	.92	.85
December	.95	.90	.92	.92
Year	3.55	.90	.92	.64

Myrrh

On October 18, 1871, the price was 42@46c.; 1881, 27@30c.; 1891, 16@40c.; 1901, 12@25c.; 1911, 13@18c.; 1913, 13@16c.; 1919, February, $1.

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.80	$0.75	$0.60	$0.60
February	.75	.75	.55	.55
March	.75	.75	.53	.48
April	.75	.75	.50	.48
May	.75	.75	.45	.45
June	.75	.75	.45	.45
July	.75	.75	.45	.45
August	.75	.75	.40	.40
September	.75	.75	.40	.40
October	.75	.75	.40	.40
November	.75	.70	.40	.40
December	.70	.60	.40	.40
Year	.80	.60	.60	.40

Tragacanth, Aleppo

On October 18, 1871, the price was 60@82½c.; 1881, 40@75c.; 1891, 24@48c.; 1901, 30@65c.; 1911, 35@77c.; 1913, $1.25@1.30; 1920, March, $5.25.

(Dollars per pound)

	1920 Firsts. H.	L.	Seconds. H.	L.	1921 Firsts. H.	L.	Seconds. H.	L.
Jan.	5.00	5.00	4.00	3.75	4.00	3.90	3.25	3.00
Feb.	Nominal		4.00	4.00	3.90	3.80	3.00	3.00
March	5.25	5.25	4.00	4.00	3.75	3.75	3.00	3.00
April	5.25	5.25	4.00	4.00	3.75	3.75	3.00	3.00
May	5.25	5.25	4.00	4.00	3.75	3.60	3.00	2.90
June	5.25	5.25	4.00	4.00	3.60	3.50	2.90	2.90
July	5.25	4.60	4.00	3.50	3.40	3.40	2.90	2.90
Aug.	4.60	4.60	3.50	3.50	3.40	3.40	2.90	2.90
Sept.	4.60	4.50	3.50	3.50	3.40	3.40	2.90	2.90
Oct.	4.50	4.50	3.50	3.50	3.40	2.95	2.90	2.50
Nov.	4.50	4.50	3.50	3.50	2.95	2.85	2.50	2.50
Dec.	4.50	4.00	3.50	3.25	2.85	2.85	2.50	2.50
Year	5.25	4.00	4.00	3.25	4.00	2.85	3.25	2.50

WAXES

Bees, African

On May 29, 1872, the price was 31@32c.; October 18, 1881, 23@24c.; 1891, 22@24c.; 1901, 33@35c.; 1911, 32@33c.; 1913, 34@35c.; 1918, November, 47c.

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.44	$0.43	$0.18	$0.16
February	.44	.44	.18	.16
March	.43	.34½	.17	.17
April	.34	.32	.17	.15
May	.30	.29	.17	.16
June	.28	.25	.17	.16
July	.25	.24	.17	.14
August	.23	.23	.16	.14
September	.23	.23	.16	.16
October	.21	.20	.14½	.14
November	.20	.20	.14	.13½
December	.20	.18	.13½	.13½
Year	.44	.18	.18	.13½

Bees, Refined

On May 29, 1872, the price was 60@65c.; October 18, 1881, 30@41c.; 1891, 40@45c.; 1901, 38@50c.; 1911, 34@36c.; 1913, 36@37c.; 1918, November, 50c.

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.47	$0.46	$0.27	$0.26
February	.47	.47	.24	.24
March	.46	.40	.24	.24
April	.40	.38	.25	.23
May	.37	.36	.23	.23
June	.35	.33	.23	.23
July	.33	.33	.23	.20
August	.33	.33	.24	.20
September	.33	.31½	.24	.22½
October	.31½	.30	.23	.21½
November	.30	.28	.21½	.21½
December	.27	.27	.21½	.21½
Year	.47	.27	.27	.21½

Candelilla

On January 23, 1911, the price was 36@37c.; October 18, 1911, 25@30c.; 1913, 22@24c.; 1918, June, 57c.

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.32	$0.32	$0.32	$0.32
February	.32	.32	.32	.32
March	.32	.30	.32	.32
April	.30	.30	.26	.26
May	.30	.30	.26	.26
June	.30	.30	.26	.26
July	.30	.30	.26	.25
August	.34	.30	.25	.25
September	.34	.34	.25	.24
October	.34	.34	.25	.24
November	.35	.35	.25	.25
December	.34	.32	.25	.25
Year	.35	.30	.32	.24

Carnauba, N. C., No. 3

On January 8, 1872, the price was 14@16c.; October 18, 1891, 15@20c.; 1901, 12@13½c.; 1911, 37@38c.; 1913, 33@33½c.; 1918, June, 81c.

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.48	$0.41	$0.20	$0.18
February	.47	.47	.20	.18
March	.45	.41½	.21	.21
April	.45	.44½	.21	.18
May	.45	.42	.17½	.16½
June	.42	.35	.16½	.14
July	.35	.35	.14	.13½
August	.35	.33	.15½	.13½
September	.31	.29	.15½	.15
October	.28	.25	.16	.14½
November	.25	.23	.15½	.13½
December	.21	.20	.13½	.12
Year	.48	.20	.20	.12

Japan

On January 12, 1881, the price was 15@16c.; October 18, 1881, 12½@13c.; 1891, 9@10c.; 1901, 7¼@7½c.; 1911, 8½@8¾c.; 1913, 9@9¼c.; 1918, September, 27½c.

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.19	$0.19	$0.19	$0.19
February	.19	.19	.19	.19
March	.18½	.17	.19	.19
April	.20½	.18½	.19	.18
May	.20½	.18	.18½	.18
June	.18	.18	.17	.17
July	.18	.17	.16	.15
August	.17	.17	.25	.15
September	.19	.17	.25	.25
October	.19½	.19	.22	.22
November	.19	.19	.23	.21
December	.19	.19	.21	.18
Year	.20½	.17	.25	.15

Shellac, T. N.

On October 18, 1871, the price was 31@42c.; 1881, 29@30c.; 1891, 21@23c.; 1901, 23@25c.; 1911, 14@14½c.; 1913, 21½@23c.; 1920, January, $1.60.

(In bags.)

	Per pound 1920. H.	L.	1921. H.	L.
January	$1.60	$1.60	$0.65	$0.55
February	1.55	1.50	.55	.50
March	1.50	1.40	.47	.45
April	1.40	1.35	.50	.45
May	1.20	1.05	.70	.60
June	1.25	1.10	.70	.58
July	1.30	1.20	.52	.46
August	1.15	1.10	.46	.44
September	1.10	.85	.57	.47
October	.92	.90	.65	.57
November	.92	.83	.67	.64
December	.80	.65	.67	.65
Year	1.60	.65	.70	.44

Twenty-one Years' Prices

	Per pound H.	L.
1921	$0.70	$0.44
1920	1.60	.65
1919	1.50	.46
1918	.68	.57
1917	.60	.39
1916	.39	.20
1915	.21	.13½
1914	.21	.14
1913	.23½	.16½
1912	.16½	.13½
1911	.18	.13½
1910	.19½	.14
1909	.20½	.14
1908	.29	.20
1907	.48	.26
1906	.50	.42
1905	.46	.42
1904	.52	.42
1903	.52¾	.26½
1902	.40	.24
1901	.30	.14
1900	.15	.14½

D. C.

On August 22, 1877, the price was 26c.; 1881, 38@39c.; 1891, 30@31c.; 1901, 33@34c.; 1911, 22@23c.; 1913, 27@28c.; 1920, July, $1.75.

	Per pound 1920. H.	L.	1921. H.	L.
January	Nominal		Nominal	
February	Nominal		$1.00	$0.90
March	Nominal		.80	.75
April	$1.60	$1.60	.78	.75
May	1.60	1.60	.85	.78
June	1.60	1.60	.82	.82
July	1.75	1.75	.78	.72
August	1.75	1.75	.72	.62
September	Nominal		.78	.72
October	Nominal		.78	.78
November	Nominal		.80	.80
December	Nominal		.80	.80
Year	1.75	1.60	1.00	.62

V. S. O.

On June 15, 1881, the price was 37@40c.; October 18, 1881, 34@35c.; 1891, 26@27c.; 1901, 26@30c.; 1911, 21@22c.; 1913, 26@27c.; 1920, July, $1.75.

	Per pound 1920. H.	L.	1921. H.	L.
January	Nominal		Nominal	
February	Nominal		$1.00	$0.90
March	Nominal		.80	.75
April	$1.60	$1.60	.78	.75
May	1.60	1.60	.85	.78
June	1.60	1.60	.82	.82
July	1.75	1.75	.78	.72
August	1.75	1.75	.72	.62
September	Nominal		.78	.72
October	Nominal		.78	.78
November	Nominal		.80	.80
December	Nominal		.80	.80
Year	1.75	1.60	1.00	.62

Bleached, Commercial

On August 22, 1877, the price was 35c.; October 18, 1881, 35@36c.; 1891, 24@30c.; 1901, 22@24c.; 1911, 15@20c.; 1913, 20½@25½c.; 1920, January, $1.45@1.75.

	Per pound 1920. H.	L.	1921. H.	L.
January	$1.45	$1.45	$0.65	$0.55
February	1.45	1.40	.55	.50
March	1.45	1.25	.45	.45
April	1.30	1.25	.50	.45
May	1.10	1.10	.68	.55
June	1.15	1.05	.68	.57
July	1.20	1.15	.57	.46
August	1.05	1.00	.47	.44
September	1.00	.80	.56	.48
October	.85	.85	.65	.56
November	.85	.80	.68	.65
December	.80	.65	.67	.65
Year	1.45	.65	.68	.44

Bleached Bone Dry

	Per pound 1920. H.	L.	1921. H.	L.
January	$1.75	$1.75	$0.80	$0.70
February	1.75	1.70	.67	.60
March	1.75	1.55	.55	.55
April	1.50	1.35	.60	.53
May	1.35	1.20	.80	.66
June	1.35	1.20	.80	.70
July	1.45	1.35	.67	.59
August	1.30	1.20	.57	.55
September	1.20	1.00	.67	.58
October	1.05	1.05	.77	.67
November	1.05	1.00	.77	.76
December	.95	.80	.78	.75
Year	1.75	.80	.80	.53

ANIMAL OILS

Degras, American

On November 28, 1903, the price was 2½@2¾c.; October 18, 1911, 2¼c.; 1913, 3c.; 1918, October, 26½c.

(In barrels)

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.07¾	$0.07	$0.06	$0.05
February	.07¾	.07¼	.05	.04¾
March	.08¾	.07	.06	.05
April	.07¾	.07¼	.05	.05
May	.08	.07	.05	.04
June	.08	.06¾	.04¼	.04
July	.07¾	.05¾	.05½	.03¾
August	.07	.05¾	.03¾	.03¾
September	.07¾	.06½	.03¾	.03¼
October	.06¼	.06	.03½	.03¼
November	.06½	.05¾	.04	.03¼
December	.06½	.05½	.04	.04
Year	.08¾	.05½	.06	.03¼

Degras, English

On January 20, 1875, the price was 7½@8c.; October 18, 1881, 9½@10c.; 1891, 3¼@3½c.; 1901, 3½@3¾c.; 1911, 2½c.; 1913, 3¼@3¾c.; 1918, October, 28c.

(In barrels)

	Per pound 1920. H.	L.	1921. H.	L.
January	Nominal		$0.05½	$0.05¼
February	$0.07¾	$0.07½	.05¼	.05
March	.08½	.07½	.05¼	.05¼
April	.08	.07¾	.05¼	.05¼
May	.07¾	.07	.05½	.04¾
June	.07¾	.07	.04¾	.04¾
July	.07	.07	.04¾	.04¼
August	.06¼	.06¼	.04¼	.04¼
September	.06¾	.06¼	.04¼	.04
October	.06½	.06	.04¼	.03½
November	.06½	.06	.03¾	.03½
December	.06½	.05½	.03¾	.03¾
Year	.08½	.05½	.05½	.03½

Horse Grease

On March 24, 1875, the price was 80@85c.; the next quotation was November 29, 1913, 6¼@7¼c.; 1918, February, 19c.

(In barrels)

	Per pound 1920. H.	L.	1921. H.	L.
January	$0.19	$0.15½	$0.07½	$0.07½
February	.18	.17	.07½	.07
March	.18	.17	.07	.05
April	.18	.16½	.05¼	.05
May	.15¼	.15¼	.05¼	.05
June	.15¼	.15¼	.05¼	.05
July	.15¼	.13	.05¼	.04½
August	.13¾	.13	.05½	.04½
September	.15	.11	.05½	.05½
October	.11	.10	.06¾	.06¾
November	.11	.10	.05	.05
December	.11	.07½	.05	.05
Year	.19	.07½	.07½	.04½

Lard Oil, Extra No. 1

On February 15, 1876, the price was 95c.@$1; October 18, 1881, 85@90c.; 1891, 47@50c.; 1901, 52@54c.; 1911, 60@64c.; 1913, 58@59c.; 1918, October, $1.70.

(In barrels)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$1.65	$1.45	$1.05	.70
February	1.60	1.50	.70	.60
March	1.50	1.50	.70	.70
April	1.65	1.50	.70	.70
May	1.50	1.45	.72	.68
June	1.40	1.25	.68	.68
July	1.25	1.15	.71	.63
August	1.19	1.10	.63	.62
September	1.22	1.15	.76	.62
October	1.32	1.22	.72	.70
November	1.23	1.15	.72	.72
December	1.00	.87	.72	.72
Year	1.65	.87	1.05	.60

Lard Oil, No. 2

On October 18, 1871, the price was 65@68c.; 1881, 55@62½c.; 1891, 35@37c.; 1901, 41@42c.; 1911, 56@60c.; 1913, 52@53c.; 1918, September, $1.50.

(In barrels)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$1.48	$1.35	$0.80	$0.62
February	1.48	1.35	.55	.52
March	1.35	1.35	.60	.60
April	1.50	1.40	.60	.60
May	1.42	1.38	.62	.60
June	1.30	1.00	.62	.62
July	1.18	1.05	.62	.58
August	1.14	1.00	.56	.55
September	1.25	.90	.61	.56
October	1.25	1.15	.60	.56
November	1.15	.92	.60	.60
December	.80	.70	.62	.60
Year	1.48	.70	.80	.52

Lard Oil, Off Prime

On September 19, 1904, the price was 48½@49c.; October 18, 1911, 72@77c.; 1913, 65@68c.; 1918, January, $2. (In barrels)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$1.90	$1.75	$1.15	$1.05
February	1.70	1.60	1.12	.75
March	1.65	1.60	.80	.75
April	1.80	1.55	.80	.75
May	1.70	1.60	.85	.75
June	1.50	1.40	.81	.77
July	1.50	1.25	.81	.72
August	1.40	1.25	.82	.73
September	1.40	1.25	.85	.77
October	1.45	1.25	.79	.75
November	1.40	1.28	.75	.75
December	1.27	1.06	.75	.75
Year	1.90	1.06	1.15	.72

Lard Oil, Prime Winter, Inedible

On October 18, 1871, the price was 87½@90c.; 1881, 97@98c.; 1891, 54@55c.; 1901, 74@75c.; 1911, 82@85c.; 1913, 93@95c.; 1918, July, $2.35. (In barrels)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$2.10	$1.95	$1.39	$1.24
February	1.95	1.85	1.25	1.10
March	1.75	1.75	1.10	1.05
April	1.90	1.80	1.05	1.00
May	1.80	1.70	.95	.95
June	1.80	1.65	.95	.95
July	1.70	1.35	.95	.83
August	1.55	1.35	.95	.83
September	1.50	1.45	.99	.95
October	1.50	1.45	.88	.85
November	1.45	1.45	.85	.85
December	1.45	1.24	.85	.85
Year	2.10	1.24	1.39	.83

Lard Oil, Prime Winter, Edible

On May 20, 1918, the price was $2.30@2.35; 1918, March, $2.35.

(In barrels)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$2.50	$2.25	$1.65	$1.45
February	2.25	2.10	1.45	1.32
March	2.10	1.90	1.40	1.35
April	2.00	1.90	1.40	1.25
May	2.00	2.00	1.25	1.10
June	1.95	1.85	1.10	1.00
July	1.80	1.80	1.05	1.00
August	1.80	1.80	1.10	1.10
September	1.90	1.80	1.15	1.10
October	1.95	1.90	1.15	1.00
November	1.90	1.90	1.00	1.00
December	1.90	1.65	.97	.97
Year	2.50	1.65	1.65	.97

Neatsfoot Oil, Prime

On October 18, 1871, the price was $1@1.10; 1881, 80@90c.; 1891, 60@70c.; 1901, 52@53c.; 1911, 75@80c.; 1913, 64@65c.; 1918, October, $2.50.

(In barrels.)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$1.90	$1.80	$1.40	$1.30
February	1.90	1.75	1.30	.95
March	1.80	1.70	1.00	1.00
April	1.80	1.70	1.00	.82
May	1.70	1.70	.82	.75
June	1.65	1.55	.80	.80
July	Nominal		.80	.78
August	1.45	1.42	.81	.78
September	1.50	1.42	.81	.81
October	1.50	1.30	.90	.83
November	1.45	1.40	.83	.83
December	1.40	1.40	.83	.83
Year	1.90	1.30	1.40	.75

Neatsfoot Oil, 20 Degrees Cold Test

On March 13, 1897, the price was 75@80c.; October 18, 1901, 82@83c.; 1911, 95c.@$1; 1913, 96@98c.; 1918, June, $3.50.

(In barrels.)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$2.25	$2.25	$1.65	$1.55
February	2.30	2.05	1.55	1.15
March	2.10	2.10	1.15	1.15
April	2.10	2.05	1.15	1.12
May	2.10	2.05	1.20	1.00
June	2.13	2.05	1.20	1.05
July	2.10	1.80	1.05	1.05
August	2.10	1.80	1.10	1.00
September	1.85	1.82	1.10	1.10
October	1.82	1.62	1.25	.92
November	1.85	1.62	1.20	1.20
December	1.65	1.65	1.20	1.20
Year	2.30	1.62	1.65	.92

Neatsfoot Oil, 30 Degrees Cold Test

On March 13 1897, the price was 65@70c.; October 18, 1901, 75@76c.; 1911, 90@95c.; 1913, 88@90c.; 1918, June, $3.05.

(In barrels.)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$2.20	$2.05	$1.50	$1.40
February	2.10	2.00	1.40	.95
March	2.05	2.05	.95	.95
April	2.00	1.95	.95	.92
May	2.00	1.80	.99	.87
June	1.85	1.80	.90	.90
July	1.80	1.55	.97	.85
August	1.60	1.45	.90	.85
September	1.58	1.50	.90	.90
October	1.58	1.38	.95	.85
November	1.80	1.38	.95	.95
December	1.50	1.50	.95	.95
Year	2.20	1.38	1.50	.85

Neatsfoot Oil, 40 Degree

On November 7, 1904, the price was 63@64c.; October 18, 1911, 85@90c.; 1913, 82@84c.; 1918, April, $3.

(In barrels.)

	Per gallon 1920. H.	L.	1921. H.	L.
January	$2.05	$1.98	$1.40	$1.30
February	1.95	1.95	1.30	.95
March	1.90	1.85	1.00	1.00
April	1.90	1.85	1.00	.82
May	1.90	1.70	.82	.75
June	1.75	1.70	.80	.80
July	1.50	1.45	.80	.78
August	1.50	1.42	.81	.78
September	1.50	1.42	.81	.81
October	1.50	1.30	.83	.83
November	1.70	1.30	.83	.83
December	1.40	1.35	.83	.83
Year	2.05	1.30	1.40	.78

Welch, Holme & Clark Co., Inc.

Established 1838 Incorporated 1892

The Old House

Still at the Old Stand

383 West Street New York City

BORNE, SCRYMSER COMPANY

Petroleum Lubricants

F F Cylinder Oil
Steam Refined Oils
Filtered Cylinder Oils
Pale Neutral Oils
Red Neutral Oils
Pale Paraffine Oils
Red Paraffine Oils
Lubricating Grease
Launching Grease
Paraffine Wax
White Oils
Petrolatum

Works: ELIZABETHPORT, N. J. *Office:* 80 South Street, New York Cable Address: "LANBORNE," NEW YORK

Oleo Oil, Extra

On April 24, 1909, the price was 9@14½c.; October 18, 1911, 9¼@11½c.; 1913, 9@12½c.; 1919, June, 35c.

(In tierces.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.30½	$0.29	$0.17½	$0.15½
February	.29½	.26½	.15	.13½
March	.27½	.26½	.12¾	.12
April	.26½	.25	.12¾	.10¼
May	.24	.22	.11¾	.10½
June	.22	.19	.10½	.09
July	.19	.19	.11	.09
August	.18½	.16¾	.13¼	.12
September	.21	.19½	.14½	.13¼
October	.23	.20	.14	.12¾
November	.20½	.18¼	.12	.12
December	.17½	.17	.11¼	.11⅛
Year	.30½	.16¾	.17½	.09

Oleo Oil, Prime

On July 29, 1918, the price was 26c.; 1919, June, 33c.

(In tierces.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.29½	$0.27	$0.14	$0.11¾
February	.27	.24½	.11½	.10¼
March	.25	.22½	.10¾	.10¼
April	.22	.20	.09	.08¾
May	.21	.20	.09¾	.09
June	.20	.17	.09¼	.08¼
July	.17½	.17	.09¾	.08¼
August	.17	.15½	.11¾	.10½
September	.19½	.17½	.13⅝	.12
October	.21	.19	.13¼	.12
November	.19	.16	.11½	.11½
December	.16½	.13½	.10½	.10¼
Year	.29½	.13½	.14	.08¼

Red Oil, Distilled

On May 27, 1911, the price was 6½@7½c.; October 18, 1913, 6@6¼c.; 1919, June, 20½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.18	$0.17	$0.09	$0.07½
February	.17¾	.16½	.08	.07¼
March	.18¼	.17	.07¾	.07
April	.18¾	.17¼	.07¼	.06½
May	.17¼	.16½	.07	.06½
June	.17	.15	.07	.07
July	.15	.14¼	.07	.06¾
August	.14¼	.13½	.07¾	.06½
September	.14¾	.12	.07½	.07¼
October	.12	.11½	.07¼	.07
November	.11	.09½	.07¼	.07¼
December	.09	.08½	.07¾	.07¼
Year	.18¾	.08½	.09	.06½

Red Oil, Saponified

On October 18, 1871, the price was 55@57c.; 1881, 60c.; 1891, 5@5¼c.; 1901, 6¼@6½c.; 1911, 7@7½c.; 1913, 6½@7c.; 1919, July, 20½c.

(In barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.18	$0.17	$0.09	$0.07¾
February	.17¾	.16½	.08	.07½
March	.18¼	.17	.08	.07¼
April	.18½	.17¼	.07½	.06¾
May	.17	.16¼	.07¼	.06¾
June	.17	.15	.07¼	.07
July	.15	.14¼	.07¼	.07
August	.14¼	.13½	.08	.07
September	.14¾	.12½	.08	.07¾
October	.13	.11¾	.08	.08
November	.11½	.09½	.08	.08
December	.09	.08½	.08¾	.08
Year	.18½	.08½	.09	.08¾

Sod Oil, Domestic

On October 18, 1871, the price was 73@75c.; 1881, 55@60c.; 1913, 34@35c.; 1919, January, $1.10.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.70	$0.60	$0.70	$0.65
February	.80	.70	.70	.65
March	.85	.80	.75	.65
April	1.05	.85	.75	.65
May	1.05	1.05	.70	.60
June	1.05	1.05	.65	.60
July	1.05	.80	.65	.60
August	.80	.80		Nominal
September	Nominal			Nominal
October	Nominal			Nominal
November	Nominal			Nominal
December	.70	.65		Nominal
Year	1.05	.60	.75	.60

Stearic Acid, Single Pressed

On December 13, 1910, the price was 10@10½c.; October 18, 1901, 11¼@11⅝c.; 1911, 9¼@9½c.; 1913, 8¾@12¼c.; 1919, June, 30c.

(In bags.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28½	$0.28	$0.13½	$0.12¼
February	.27	.26½	.12¾	.11
March	.25	*.22½	.10½	.10
April	*.22½	*.22	.10	.10
May	.25	.25	.09½	.08¾
June	.25	.22¾	.09¼	.08¼
July	.22¾	.21½	.09¼	.09
August	.21½	.21	.10	.09
September	.21	.17¾	.10	.08½
October	.19	.16	.09	.08
November	.16½	.15	.09	.09
December	.14½	.13	.09	.09
Year	.28½	.13	.13½	.08

* F. o. b. factory.

Stearic Acid, Double Pressed

On May 16, 1908, the price was 10@10¼c.; October 18, 1911, 10¼@10½c.; 1919, July, 31½c.

(In bags.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.29½	$0.29½	$0.14	$0.12¾
February	.28	.27½	.12¾	.11½
March	.27½	*.25	.11	.10½
April	*.24½	*.24	.10¾	.10½
May	.26	.26	.10¼	.09
June	.26	.23¾	.10	.10
July	.23¾	.22½	.10	.09½
August	.22½	.22½	.10½	.09½
September	.22	.18¾	.10½	.09¾
October	.20	.17	.09¾	.09
November	.17	.15½	.09¾	.09¾
December	.15	.13½	.09¾	.09¾
Year	.29½	.13½	.14	.09

* F. o. b. factory.

Stearic Acid, Triple Pressed

On June 12, 1915, the price was 13@13½c.; 1919, July, 34c.

(In bags.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.33	$0.31	$0.15	$0.13½
February	.32	.30	.14½	.12¾
March	.31	*.27½	.12	.11½
April	*.27¾	*.27	.11½	.11½
May	.29½	.29	.11	.10½
June	.29½	.27	.14	.11
July	.27	.25½	.14	.10¾
August	.28	.24½	.11½	.10½
September	.27	.24	.11½	.10
October	.24	.18	.10½	.10½
November	.17½	.16½	.10½	.10½
December	.15¾	.14½	.10½	.10½
Year	.33	.14½	.15	.10

* F. o. b. factory.

Tallow Oil, Acidless

On October 18, 1871, the price was 77½@80c.; 1881 75@85c.; 1891, 45@48c.; 1901, 57c.; 1911, 63@65c.; 1913, 62@63c.; 1919, July, $1.90.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.72	$1.70	$0.97	$0.78
February	1.75	1.52	.78	.70
March	1.60	1.50	.75	.70
April	1.65	1.60	.75	.65
May	1.60	1.40	.70	.65
June	1.50	1.18	.65	.65
July	1.40	1.20	.65	.65
August	1.30	1.20	.70	.65
September	1.42	1.27	.82	.70
October	1.42	1.28	.75	.75
November	1.28	1.15	.75	.75
December	1.00	.90	.75	.75
Year	1.75	.90	.97	.65

FISH OILS

Cod Oil, Domestic Prime

On October 18, 1871, the price was 58@62½c.; 1881, 40@43c.; 1891, 34@36c.; 1901, 30@31c.; 1911, 52@54c.; 1913, 38@40c.; 1918, October, $1.50.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.18	$1.15	$0.60	$0.48
February	1.16	1.12	.48	.45
March	1.16	1.12	.55	.50
April	1.22	1.16	.55	.45
May	1.30	1.18	.42	.42
June	1.22	1.05	.44	.44
July	1.05	1.00	.45	.38
August	1.00	.93	.44	.40
September	1.10	.85	.41	.40
October	.86	.80	.41	.41
November	.72	.70		Nominal
December	.68	.53		Nominal
Year	1.30	.53	.60	.38

Cod Oil, Newfoundland

On October 18, 1871, the price was 67½@70c.; 1881, 42½@47c.; 1891, 42@43c.; 1901, 34@35c.; 1911, 54@57c.; 1913, 40@42c.; 1918, October, $1.60.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.18	$1.12	$0.65	$0.50
February	1.22	1.12	.50	.47
March	1.22	1.16	.60	.50
April	1.22	1.16	.60	.48
May	1.35	1.18	.46	.44
June	1.25	1.15	.48	.44
July	1.20	1.14	.47	.43
August	1.05	.95	.47	.43
September	1.15	.90	.44	.43
October	.90	.85	.42	.42
November	.85	.72	.43	.43
December	.70	.55	.45	.43
Year	1.35	.55	.65	.42

Dogfish Oil, Liver

On July 29, 1918, the price was $1.03½; 1918, October, $1.25.

(F. o. b. Pacific coast in sellers' tanks.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.05	$1.05	$0.45	$0.40
February	1.05	1.05	.30	.30
March	1.05	1.05	.30	.30
April	1.05	1.05	.30	.20
May	.95	.95	.20	.18
June	.95	.95	.20	.18
July	Nominal		.20	.20
August	Nominal		.20	.20
September	.70	.70	.30	.20
October	.70	.70	.30	.25
November	.55	.55	.25	.25
December	.45	.35	.25	.25
Year	1.05	.35	.45	.18

Herring Oil, Oriental

On October 31, 1888, the price was 35c.; October 18, 1901, nominal; 1911, 50c.; 1913, nominal; 1918, October, $1.20.

(F. o. b. Pacific coast, sellers' tanks)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.92	$0.92	$0.35	$0.30
February	.92	.90	.35	.30
March	.90	.90	.25	.22½
April	.90	.90	.22½	.20
May	.90	.90	.20	.20
June	.90	.75	.20	.20
July	.75	.75	.20	.20
August	.70	.60	.24	.20
September	.65	.50	.25	.22
October	.55	.50	.25	.25
November	.45	.45	.25	.25
December	.45	.35	.30	.25
Year	.92	.35	.35	.20

Menhaden Oil, Dark Pressed

On September 8, 1917, the price was 82@84c.; 1918, September, $1.35.

(In barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.05	$1.05	$0.45	$0.41
February	1.05	1.05	.45	.40
March	1.07	1.05	.45	.43
April	1.07	1.02	.43	.36
May	1.05	1.02	.41	.31
June	1.05	.85	.41	.38
July	.85	.83	.38	.35
August	.87	.75	.38	.32
September	.75	.75	.33	.32
October	.75	.70	.40	.33
November	.70	.65	.38	.38
December	.50	.45	.38	.38
Year	1.07	.45	.45	.31

Menhaden Oil, Light Pressed

On May 18, 1918, the price was $1.18@1.20; 1918, August, $1.37.

(In barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.20	$1.15	$0.55	$0.48
February	1.18	1.15	.48	.47
March	1.19	1.15	.50	.48
April	1.19	1.18	.50	.43
May	1.20	1.15	.46	.36
June	1.19	1.00	.46	.43
July	1.00	.95	.47	.43
August	1.00	.83¼	.47	.42
September	.85	.82	.43	.42
October	.90	.80	.45	.40
November	.75	.70	.45	.45
December	.55	.52	.45	.45
Year	1.20	.52	.55	.36

Menhaden Oil, Northern, Crude

On October 14, 1879, the price was 30@31c.; October 18, 1881, 32c.; 1891, nominal; 1901, 26c.; 1911, nominal; 1913, nominal; 1918, September, $1.27.

(F. o. b. factory, buyers' tanks)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	Nominal		$0.32	$0.31
February	Nominal		.35	.32
March	Nominal		.35	.35
April	$0.95	$0.90	.28	.28
May	.90	.80	.30	.27
June	.80	.70	.31	.30
July	.70	.65	.31	.31
August	.65	.60	.25	.25
September	.60	.55	.30	.27
October	.50	.45	.32½	.29
November	Nominal		.32½	.32½
December	.35	.32	Nominal	
Year	.95	.32	.35	.25

Menhaden Oil, Southern, Crude

On December 1, 1886, the price was 18@19c.; October 18, 1901, 25c.; 1911, 35c.; 1913, 35c.; 1918, September, $1.27.

(F. o. b. Baltimore, in barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.95	$0.90	$0.34	$0.30
February	1.00	.95	.32	.28
March	1.00	.95	.31	.31
April	.95	.90	.30	.25
May	.90	.80	.30	.25
June	.80	.70	.31	.29
July	.70	.65	.30	.28
August	.65	.60	.30	.24
September	.60	.55	.34	.30
October	.50	.45	.33	.29
November	.41	.40	.33	.32
December	.35	.30	.35	.33
Year	1.00	.30	.35	.24

Menhaden Oil, Light Bleached

On October 18, 1871, the price was 41c.; 1881, nominal; 1891, nominal; 1901, 34@35c.; 1911, 50@54c.; 1913, 42@44c.; 1918, November, $1.50.

(In barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.30	$1.22	$0.59	$0.53
February	1.22	1.18	.53	.52
March	1.29	1.22	.54	.52
April	1.29	1.22	.55	.47
May	1.29	1.22	.50	.41
June	1.28	1.12	.55	.47
July	1.12	1.10	.55	.47
August	1.10	.96	.51	.46
September	.92	.90	.47	.46
October	.90	.86	.49	.43
November	.81	.76	.49	.49
December	.61	.59	.49	.49
Year	1.30	.59	.59	.43

Menhaden Oil, Yellow Bleached

On January 3, 1910, the price was 33@34c.; October 18, 1911, 48@51c.; 1913, 40@42c.; 1918, September, $1.47.

(In barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.20	$1.20	$0.57	$0.51
February	1.20	1.20	.51	.50
March	1.22	1.20	.52	.50
April	1.25	1.20	.52	.45
May	1.25	1.22	.48	.39
June	1.23	1.07	.48	.45
July	1.10	1.03	.49	.45
August	1.05	.93	.49	.44
September	.90	.87	.45	.44
October	.87	.83	.47	.42
November	.78	.73	.47	.47
December	.58	.57	.47	.47
Year	1.25	.57	.57	.39

Porpoise Jaw Oil

On February 19, 1910, the price was $19@20; October 18, 1911, $19@20; 1913, $19@20; 1920, June, $85.

(In barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$80.00	$80.00		Nominal
February	80.00	80.00		Nominal
March	80.00	80.00		Nominal
April	80.00	80.00		Nominal
May	80.00	80.00		Nominal
June	85.00	80.00		Nominal
July	85.00	80.00		Nominal
August	80.00	80.00		Nominal
September	80.00	80.00		Nominal
October	80.00	80.00		Nominal
November	80.00	80.00		Nominal
December	Nominal			Nominal
Year	85.00	80.00		Nominal

Salmon Oil

On July 29, 1918, the price was 90c.; 1918, December, $1.35.

(F. o. b. Pacific coast, sellers' tanks.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.92	$0.90	$0.35	$0.30
February	.92	.90	.35	.30
March	.90	.90	.25	.20
April	.90	.90	.22	.20
May	.90	.90	.22	.20
June	.90	.75	.20	.20
July	.75	.75	.20	.20
August	.70	.60		Nominal
September	.70	.50	.35	.35
October	.70	.50	.35	.30
November	.60	.60	.30	.30
December	.30	.30	.30	.30
Year	.92	.30	.35	.20

Sardine Oil, Oriental

On July 29, 1918, the price was $1.08@1.10; 1918, January, $1.23.

(F. o. b. Pacific coast, sellers' tanks.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.92	$0.92	$0.35	$0.30
February	.92	.90	.30	.30
March	.90	.90	.25	.22½
April	.90	.90	.25	.20
May	.90	.90	.20	.20
June	.90	.80	.20	.20
July	.75	.75	.20	.20
August	.70	.70	.20	.20
September	.60	.60	.25	.20
October	.60	.50	.25	.20
November	.50	.50	.20	.20
December	.35	.30	.20	.20
Year	.92	.30	.35	.20

Seal Oil

On October 18, 1871, the price was 75@80c.; 1881, 70c.; 1891, 61c.; 1901, 42@43c.; 1913, 53@55c.; 1918, August, $1.60.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	Nominal			Nominal
February	Nominal			Nominal
March	Nominal			Nominal
April	Nominal			Nominal
May	Nominal		$0.55	$0.55
June	Nominal		.55	.55
July	Nominal		.55	.55
August	Nominal		.55	.55
September	Nominal		.55	.55
October	Nominal			Nominal
November	Nominal			Nominal
December	Nominal			Nominal
Year	Nominal		.55	.55

Sperm, Bleached, 38 Degrees Cold Test

On October 18, 1871, the price was $1.40@1.42½; 1881, $1.10@1.12; 1891, 77@80c.; 1901, 66@68c.; 1911, 74@76c.; 1913, 72@73c.; 1918, April, $2.25.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.00	$1.98	$1.80	$1.75
February	2.00	1.98	1.75	1.75
March	2.00	1.98	1.75	1.70
April	2.00	1.98	1.70	1.70
May	2.00	1.98	1.70	1.70
June	2.00	1.98	1.70	1.70
July	2.00	1.95	1.70	1.70
August	1.95	1.88	1.70	1.70
September	1.90	1.88	1.70	1.70
October	1.90	1.88	1.70	1.70
November	1.90	1.90	1.70	1.70
December	1.80	1.80	1.70	1.70
Year	2.00	1.80	1.80	1.70

Sperm Oil, Bleached, 45 Degrees Cold Test

On October 18, 1871, the price was $1.40@1.42½; 1881, $1.10@1.12; 1891, 77@80c.; 1901, 66@68c.; 1911, 74@76c.; 1913, 70@71c.; 1918, December, $2.25.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.95	$1.93	$1.75	$1.70
February	1.95	1.93	1.70	1.70
March	1.95	1.93	1.70	1.65
April	1.95	1.93	1.65	1.65
May	1.95	1.93	1.65	1.65
June	1.95	1.93	1.65	1.65
July	1.95	1.89	1.65	1.65
August	1.91	1.83	1.65	1.65
September	1.85	1.83	1.65	1.65
October	1.85	1.83	1.62	1.62
November	1.85	1.85	1.62	1.62
December	1.75	1.75	1.62	1.62
Year	1.95	1.75	1.75	1.62

Sperm, Natural, 38 Degrees Cold Test

On October 18, 1871, the price was $1.35@1.37½; 1881, $1.05@1.07; 1901, 72@75c.; 1901, 61@63c.; 1911, 71@73c.; 1918, 69c.; 1918, April, $2.23.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.97	$1.95	$1.77	$1.72
February	1.97	1.95	1.72	1.72
March	1.97	1.95	1.72	1.67
April	1.97	1.95	1.67	1.67
May	1.97	1.95	1.67	1.67
June	1.97	1.95	1.67	1.67
July	1.97	1.90	1.67	1.67
August	1.92	1.85	1.67	1.67
September	1.87	1.85	1.67	1.67
October	1.87	1.85	1.67	1.67
November	1.87	1.87	1.67	1.67
December	1.77	1.77	1.67	1.67
Year	1.97	1.77	1.77	1.67

Sperm Oil, Natural, 45 Degrees Cold Test

On January 16, 1909, the price was 72@73c.; October 18, 1911, 74@76c.; 1913, 67c.; 1918, December, $2.25.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.92	$1.90	$1.77	$1.72
February	1.92	1.90	1.72	1.72
March	1.92	1.90	1.72	1.67
April	1.92	1.90	1.62	1.62
May	1.92	1.90	1.62	1.62
June	1.92	1.90	1.62	1.62
July	1.92	1.85	1.62	1.62
August	1.87	1.80	1.62	1.62
September	1.82	1.80	1.62	1.62
October	1.82	1.80	1.62	1.62
November	1.82	1.82	1.62	1.62
December	1.72	1.72	1.62	1.62
Year	1.92	1.72	1.77	1.62

Whale Oil, Crude No. 1

On October 18, 1871, the price was 56@57c.; 1881, nominal; 1891, nominal; 1901, nominal; 1911, nominal; 1913, nominal; 1918, August, $1.35.

(F. o. b. Pacific coast, sellers' tanks)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.05	$1.05	$0.37½	$0.37½
February	1.05	1.05	.37½	.37¾
March	1.05	1.05	.37½	.37½
April	1.05	1.05	.37½	.37½
May	Nominal		.37½	.37½
June	Nominal		.40	.30
July	1.08¾	.90	.30	.30
August	.90	.86	.30	.30
September	.93¾	.86	.35	.30
October	.93¾	.70	.37½	.37½
November	.48¾	.45	.37½	.37½
December	.45	.37½	.37½	.37½
Year	1.08¾	.37½	.40	.30

Whale Oil, Bleached Winter

On October 18, 1871, the price was 65@68c.; 1881, 64c.; 1891, 58@59c.; 1901, 46@48c.; 1911, 52@54c.; 1913, 50@51c.; 1918, January, $1.50.

(In barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.29	$1.22	$1.00	$0.93
February	1.32	1.27	.83	.83
March	1.34	1.30	.83	.83
April	1.35	1.32	.83	.65
May	1.32	1.32	.78	.65
June	1.35	1.32	.68	.68
July	1.32	1.30	.73	.67
August	1.32	1.22	.69	.65
September	1.32	1.22	.65	.65
October	1.22	1.10	.70	.65
November	1.10	1.10	.70	.70
December	1.00	1.00	.70	.70
Year	1.35	1.00	1.00	.65

Whale Oil, Extra Bleached Winter

On October 24, 1876, the price was 70c.; October 18, 1881, 66@67c.; 1891, 60c.; 1901, 48@50c.; 1911, 54@56c.; 1913, 52@53c.; 1919, March, $1.55.

(In barrels)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.31	$1.24	$1.05	$0.95
February	1.35	1.31	.85	.85
March	1.37	1.31	.85	.85
April	1.37	1.35	.85	.67
May	1.35	1.35	.80	.67
June	1.38	1.35	.71	.71
July	1.35	1.35	.75	.69
August	1.35	1.25	.71	.67
September	1.35	1.25	.67	.67
October	1.25	1.12	.77	.67
November	1.12	1.12	.77	.77
December	1.05	1.05	.77	.77
Year	1.38	1.05	1.05	.67

GULF REFINING COMPANY

OKLAHOMA
TEXAS
LOUISIANA

Refiners of ***PETROLEUM***

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT
FUEL OIL
LUBRICATING OILS
CYLINDER
ENGINE
CORDAGE

Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

District Sales Offices:

NEW YORK HOUSTON ATLANTA BOSTON NEW ORLEANS PHILADELPHIA

Ocean Terminals

Beverly, Mass.
Gibson's Point, Pa.
Port Tampa, Fla.
Port Arthur, Texas
Bayonne, N. J.
Savannah, Ga.
Gretna, La.
Magazine Point (Mobile), Ala.
Providence, R.I.
Jacksonville, Fla.
Galveston, Texas

Whale Oil, Natural Winter

On October 18, 1871, the price was 63c.; 1881, 50@51c.; 1891, 56c.; 1901, 44@46c.; 1911, 50@52c.; 1913, 48@49c.; 1918, September, $1.50.

(In barrels)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	$1.20	$1.20	$0.90	$0.90
February	1.30	1.24	.78	.78
March	1.30	1.24	.81	.78
April	1.30	1.30	.81	.60
May	1.30	1.30	.76	.60
June	1.30	1.30	.65	.65
July	1.30	1.25	.71	.65
August	1.28	1.20	.60	.60
September	1.20	1.05	.68	.60
October	1.20	1.05	.68	.68
November	1.05	1.05	.68	.68
December	.90	.90	.68	.68
Year	1.30	.90	.90	.60

VEGETABLE OILS

China Wood Oil

On February 4, 1905, the price was 6@6¼c.; October 18, 1911, 8¾@9c.; 1913, 7¼@7½c.; 1918, July, 32c.

(In barrels)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.28	$0.22½	$0.11½	$0.09½
February	.26	.23½	.10½	.09½
March	.25	.23½	.10½	.09
April	.25	.24	.10	.08½
May	.24	.22	.15	.09¾
June	.22	.16	.15½	.10¾
July	.19½	.18	.15½	.14
August	.18½	.16½	.17	.15
September	.18	.17½	.17	.12½
October	.18	.16	.14½	.13½
November	.16½	.12	.15½	.14½
December	.13½	.11½	.14½	.13
Year	.26	.11½	.17	.08½

Coconut Oil Meal

On October 7, 1918, the price was $40@42; 1919, October, $66.

	Per short ton 1920. H.	1920. L.	1921. H.	1921. L.
January	$65.00	$60.00	$50.00	$42.00
February	65.00	60.00	42.00	20.00
March	60.00	60.00	20.00	20.00
April	52.50	50.00	28.00	20.00
May	50.00	50.00	28.00	25.00
June	50.00	50.00	25.00	25.00
July	55.00	50.00	28.00	25.00
August	55.00	50.00	30.00	24.00
September	50.00	50.00	30.00	30.00
October	50.00	50.00	30.00	30.00
November	50.00	50.00	30.00	30.00
December	50.00	50.00	30.00	25.00
Year	65.00	50.00	50.00	20.00

Coconut Oil Cake

On October 7, 1918, the price was $39@41; 1919, August, $61.

	Per short ton 1920. H.	1920. L.	1921. H.	1921. L.
January	*$45.00	*$42.00	*$35.00	*$28.00
February	*42.00	*40.00	*28.00	*10.00
March	*40.00	*40.00	*10.00	*10.00
April	*40.00	*35.00	*10.00	*10.00
May	*40.00	*35.00	*10.00	*10.00
June	*40.00	*35.00	*10.00	*10.00
July	*35.00	*30.00	*10.00	*10.00
August	*35.00	*30.00	*10.00	*10.00
September	*35.00	*35.00	*16.00	*16.00
October	*35.00	*35.00	16.00	16.00
November	*35.00	*35.00	16.00	16.00
December	*35.00	*35.00	16.00	16.00
Year	*45.00	*30.00	35.00	10.00

*F. o. b. Pacific coast.

Coconut Oil, Manila

On October 23, 1918, the price was 15¾@16c.; 1919, July, 20¾c.

(In barrels)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.19¾	$0.18¾	$0.12	$0.11¾
February	.19½	.17½	.12	.09
March	.18¾	.18	.09¼	.08¾
April	.18¾	.18	.09¾	.08¾
May	.18½	.18¼	.10½	.09½
June	.19	.17	.10¼	.10¼
July	.17	.15½	.10¼	.10¼
August	.15½	.15	.10½	.09½
September	.15¾	.15	.10	.10
October	.16	.15½	.10	.08
November	.16	.14½	.09¼	.07½
December	.14½	.11	.07¾	.07½
Year	.19¾	.11	.12	.07½

Coconut Oil, Edible

On August 19, 1918, the price was 20@21c.; 1919, July, 24c.

(In barrels)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.22½	$0.21¾	$0.17	$0.14
February	.22	.20½	.14	.12
March	.22	.19½	.12	.11
April	.20½	.19½	.11¼	.10
May	.21	.20	.12½	.11
June	.20	.18	.12½	.12
July	.18¼	.18	.12	.12
August	.18	.17	.12¾	.11⅞
September	.18	.17½	.12	.12
October	.18½	.16	.12	.12
November	.17	.15	.11½	.11½
December	.17	.14½	.11	.11
Year	.22½	.14½	.17	.10

Coconut Oil, Cochin, Domestic

On September 18, 1916, the price was 14@15c.; 1919, June, 22c.

(In barrels)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.21	$0.20½	$0.13½	$0.12½
February	.20½	.20	.13	.10¼
March	.20½	.19	.10¾	.09¾
April	.19½	.19¾	.10¼	.09½
May	.20	.19½	.12	.10¼
June	.20	.18¼	.12	.10½
July	.19	.16½	.10½	.10½
August	.17	.16½	.11½	.11
September	.17	.17	.11	.11
October	.17¼	.16	.11	.10½
November	.16	.15	.10½	.10
December	.14¾	.12½	.10	.10
Year	.21½	.12½	.13½	.09½

Coconut Oil, Ceylon, Domestic

On August 14, 1916, the price was 12¾@13c.; 1919, July, 20¾c.

(In barrels)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.19¾	$0.18¾	$0.12	$0.11¾
February	.19½	.17½	.12	.09¾
March	.18¾	.18	.09	.08¾
April	.18¾	.18½	.09¾	.08¾
May	.18½	.18¼	.10½	.09½
June	.19	.17	.10¼	.10¼
July	.17	.15½	.10¼	.10¼
August	.15¼	.15	.10½	.09½
September	.15¾	.15	.10	.10
October	.16	.15½	.09½	.08¾
November	.16	.14½	.09¼	.09½
December	.14½	.11	.09½	.09¼
Year	.19¾	.11	.12	.08¾

Copra, South Sea Island

On April 20, 1912, the price was 9¼@9¼c.; 1913, 10¾@10⅞c.; 1919, January, 20¾c.

(New York, in bags.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.12½	$0.11¼	$0.06¼	$0.05¼
February	.11¾	.10	.06	.04
March	.10⅝	.10¼	.05	.04
April	Nominal		.04¾	.04½
May	.11	.10	.05¾	.04½
June	.11¼	.08	.05	.03
July	.11	.07½	.04¾	.04½
August	.08¼	.07½	.04¾	.04½
September	.08½	.07⅝	.05	.05
October	.09⅜	.08⅜	.05	.04⅜
November	.08½	.07½	.04¼	.04¼
December	.07¼	.06	.04⅝	.04¼
Year	.12½	.06	.06¼	.04

Copra

On January 5, 1918, the price was 8⅞@9c.; 1920, January, 11¼c.

(F. o. b. Pacific coast, bags.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.11¼	$0.10½	$0.05½	$0.05
February	.11	.09⅝	.05½	.04
March	.09⅝	.09¼	.04½	.04
April	.10	.09¼	.04¾	.04
May	.11	.10	.05¼	.04¼
June	.10	.07¼	.04¾	.04¼
July	.08	.07	.04¾	.04⅛
August	.07½	.07¼	.04½	.04¼
September	.07¾	.06⅝	.04½	.04¼
October	.08½	.07⅜	.04½	.04¼
November	.07¾	.06¼	.04¼	.04¼
December	.06¼	.05½	.04⅜	.04¼
Year	.11¼	.05½	.05½	.04

Corn Oil, Crude

On March 8, 1915, the price was $7.75@7.85; 1920, January, $20.81.

(In barrels)

	Per hundredweight 1920. H.	1920. L.	1921. H.	1921. L.
January	$20.81	$20.00	$9.01	$8.61
February	20.56	18.86	8.75	8.00
March	19.00	17.56	8.10	7.80
April	17.81	16.81	7.80	7.76
May	17.81	17.31	8.01	7.51
June	17.81	16.06	7.76	7.76
July	16.00	13.81	7.88½	7.38½
August	11.81	11.06	9.00	7.88½
September	12.76	11.06	10.38½	8.50
October	12.76	11.76	10.25	8.75
November	11.76	10.50	9.25	8.75
December	11.00	9.01	8.75	8.63½
Year	20.81	9.01	10.38½	7.38½

Corn Oil, Refined

(In cooperage.)

On August 5, 1895, the price was $32@33; October 18, 1913, $6.25@6.35; 1919, August, $28.56.

	Per hundredweight 1920. H.	1920. L.	1921. H.	1921. L.
January	$24.50	$23.00	$12.26	$10.76
February	23.56	22.50	10.76	10.50
March	23.00	20.56	10.50	9.50
April	20.56	19.50	9.76	9.50
May	20.56	20.06	9.26	9.26
June	20.56	20.56	9.26	9.26
July	20.00	18.06	9.26	9.10
August	17.50	14.96	10.26	10.00
September	16.26	16.26	11.26	10.26
October	16.26	15.76	11.50	10.00
November	15.76	13.76	11.00	10.37½
December	13.76	12.26	10.75	10.12½
Year	24.50	12.26	12.26	9.10

Corn Oil Meal

On March 15, 1897, the price was $13@13.50; October 18, 1901, $22.50; 1911, nominal; 1913, nominal; 1920, June, $78.46.

	Per short ton 1920. H.	1920. L.	1921. H.	1921. L.
January	$73.46	$64.00	$53.12	$53.12
February	72.46	*63.00	53.12	41.12
March	*66.00	*62.00	41.12	30.00
April	*65.00	*60.00	37.12½	30.00
May	*60.00	*60.00	37.12½	30.00
June	78.46	70.46	37.12½	30.00
July	69.00	66.46	37.12½	30.00
August	68.14	58.14	30.00	30.00
September	53.14	42.11	34.62	30.00
October	53.14	42.11	34.62	33.70
November	53.12	42.11	31.69	31.69
December	53.12	53.12	41.70	31.69
Year	78.46	42.11	53.12	30.00

*F. o. b. Chicago.

Cottonseed Oil, Prime Summer Yellow

On October 18, 1871, the price was 53@56c. per gallon; in 1881, 56@57½c. per gallon; 1891, 34@35c. per gallon; 1901, 38@40c. per gallon; 1911, 6.00@6.12½c. per pound; 1913, 6.85@6.90c.; 1919, July, 27.50c.

(In barrels.)

	Cents per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	22.50	21.50	8.40	8.00
February	21.50	19.00	8.40	6.60
March	19.50	19.00	7.00	6.40
April	19.00	18.50	6.00	5.50
May	18.50	18.00	7.30	6.90
June	18.80	17.00	7.65	7.00
July	17.00	12.00	8.75	7.50
August	12.75	11.75	8.75	8.30
September	14.00	12.60	10.00	8.50
October	10.50	10.25	9.90	8.25
November	11.20	9.70	8.40	8.40
December	10.00	8.00	8.40	8.20
Year	22.50	8.00	10.00	5.50

	Cents per pound H.	L.
1921	10.00	5.50
1920	22.50	8.00
1919	27.50	20.00
1918	21.00	19.50
1917	19.10	11.95
1916	13.00	8.50
1915	8.37	5.30
1914	7.63	4.85

Cottonseed Oil, Prime Crude, f. o. b. Southeast

On October 18, 1871, the price was 44@46c. per gallon; 1881, 45@56c.; 1891, 30@31c.; 1901, 30@31c.; 1911, 33c.; 1913, 43@43½c. per gallon; 1919, June, 22.50c. per pound.

(In barrels.)

	Cents per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	20.00	19.50	6.25	6.00
February	19.50	17.50	6.25	5.65
March	17.50	17.50	5.60	4.55
April	17.50	17.25	4.65	4.00
May	17.25	16.00	5.50	5.00
June	16.00	15.50	6.00	5.60
July	15.00	10.60	7.25	6.00
August	10.50	10.00	7.25	6.25
September	10.25	10.25	8.25	7.25
October	10.25	10.25	8.00	7.00
November	8.25	6.25	7.00	7.00
December	6.50	6.30	7.00	7.00
Year	20.00	6.25	8.25	4.00

Hempseed Oil

On August 5, 1918, the price was 25c.; 1919, July, 24c.

(In drums.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.22	$0.20½	$0.07	$0.07
February	Nominal		.07	.07
March	Nominal		.07	.07
April	Nominal		.07	.07
May	Nominal		.07	.07
June	.19	.17	.07	.07
July	.17	.17	.07	.07
August	Nominal		.07	.07
September	Nominal		.07	.07
October	Nominal		.07	.07
November	Nominal		.07	.07
December	.12¾	.12	.07	.07
Year	.22	.12	.07	.07

Lumbang Oil

On September 2, 1918, the price was $1.75; 1919, July, $1.75.

(In barrels.)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	*$0.22	*$0.22	$0.12½	$0.12½
February	*.22	*.22	.12½	.12½
March	*.22	*.22	.12½	.12½
April	Nominal		.12½	.10
May	Nominal		.10	.08
June	Nominal		.08	.08
July	Nominal		.08	.08
August	.13	.13	.08	.08
September	.13	.13	.10	.08
October	Nominal		.10	.10
November	Nominal		.09	.09
December	.12½	.12½	.09	.09
Year	.22	.12½	.12½	.08

*F. o. b. factory.

Linseed Oil

On October 18, 1871, the price was 81@82c.; 1881, 59@60c.; 1891, 40c.; 1901, 65@66c.; 1911, 88@89c.; 1913, 46c.; 1919. July, $2.22.

(Carload lots.)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	$1.77	$1.77	$0.80	$0.74
February	1.77	1.77	.70	.62
March	1.77	1.74	.67	.65
April	1.84	1.74	.67	.55
May	1.74	1.67	.75	.60
June	1.67	1.60	.76	.73
July	1.60	1.50	.80	.71
August	1.50	1.35	.77	.73
September	1.22	1.20	.77	.73
October	1.22	1.07	.70	.67
November	1.02	.80	.69	.65
December	.84	.80	.69	.67
Year	1.84	.80	.80	.55

	Per gallon H.	L.
1921	$0.80	$0.55
1920	1.84	.80
1919	2.22	1.45
1918	1.90	1.28
1917	1.27	.93
1916	.97	.63
1915	.65	.48
1914	.59	.44

Mustard Oil, Crude

On September 2, 1876, the price was 70@75c.; October 18, 1881, 65@70c.; 1891, 50@52c.; 1901, 55@66c.; 1911, 80@85c.; 1913, 75@80c.; 1920, March, $1.70.

(In barrels.)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	$1.60	$1.55	$1.25	$1.25
February	1.60	1.55	1.25	1.25
March	1.70	1.55	1.25	.85
April	1.70	1.70	.85	.85
May	1.70	1.70	.65	.65
June	1.70	1.70	.85	.85
July	1.70	1.65	.85	.85
August	1.50	1.50	.85	.85
September	1.50	1.50	.85	.85
October	1.50	1.50	.85	.85
November	1.50	1.40	.85	.85
December	1.25	1.25	.85	.85
Year	1.70	1.25	1.25	.65

Olive Oil, Denatured

On October 18, 1871, the price was $1.22@1.25; 1881, $1@1.10; 1891, 62@65c.; 1901, 58@62c.; 1911, 85@89c.; 1913, 83@85c.; 1919, January, $3.50.

(In barrels.)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	$3.50	$2.50	$2.60	$2.60
February	2.90	2.75	2.50	1.80
March	3.00	2.90	2.00	1.70
April	3.00	2.85	1.70	1.45
May	3.00	3.00	1.40	1.35
June	Nominal		1.45	1.45
July	3.30	3.00	1.45	1.35
August	3.30	3.00	1.20	1.15
September	Nominal		1.15	1.00
October	Nominal		1.10	1.00
November	Nominal		1.15	1.15
December	2.85	2.85	1.15	1.10
Year	3.50	2.50	2.60	1.00

Olive Oil, Prime Foots

On May 13, 1879, the price was 8¼c.; October 18, 1881, 7½c.; 1891, 5¼@5½c.; 1901, 5@5¼c.; 1911, 7¼@7½c.; 1913, 7¾@8c.; 1918, May, 45c.

(In casks.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.22	$0.18½	$0.12½	$0.09
February	.22	.19½	.10	.09½
March	.22	.18½	.11	.10
April	.21½	.19	.10½	.08½
May	.20	.18¼	.08¾	.07½
June	.18½	.17½	.08¾	.08½
July	.18½	.16½	.07½	.07½
August	.17	.14	.07½	.07½
September	.11	.09	.08	.07¾
October	.14½	.12½	.08¼	.08
November	.14½	.10	.08¾	.08¾
December	.12	.10	.08¾	.08½
Year	.22	.09	.12½	.07½

Olive Oil, Edible

On January 19, 1918, the price was $3@3.25; 1918, November, $7.50.

(In barrels.)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	$3.70	$2.90	$3.50	$2.60
February	3.25	3.10	3.00	2.20
March	3.50	2.90	2.50	1.80
April	3.45	3.05	2.25	1.60
May	3.80	3.05	2.25	1.60
June	4.25	3.30	2.60	1.95
July	4.50	3.40	2.25	1.95
August	4.00	3.40	2.25	1.50
September	3.80	2.75	1.75	1.50
October	3.80	3.40	1.85	1.65
November	3.40	3.00	1.85	1.85
December	3.20	3.00	2.00	1.85
Year	4.50	2.75	3.50	1.50

Palm Oil, Lagos

On October 18, 1871, the price was 8@8¾c.; 1881, 7¼@7½c.; 1891, 6@6½c.; 1901, 5½@5¾c.; 1911, nominal; 1913, 7¾@7¾c.; 1918, May, 40c.

(In casks.))

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.18¼	$0.17	$0.07¾	$0.07½
February	.17½	.15½	.07¾	.06½
March	.16	.15¾	.07	.06½
April	.16¼	.15½	.06½	.06½
May	.15¼	.12	.07	.06¾
June	.11½	.11	.06½	.06½
July	.12¾	.10½	.06½	.06½
August	.11	.09½	.08	.06
September	.11	.09½	.07½	.07
October	.11	.09½	.07½	.07
November	.10¼	.09	.06¾	.06¾
December	.09	.07½	.07¾	.06¾
Year	.18¼	.07½	.08	.06

Palm Kernel Oil, Domestic

On February 26, 1910, the price was 8¾@8½c.; October 18, 1911, 9¼c.; 1913, 10½@10¾c.; October, 1919, 22c.

(In barrels.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.22	$0.22	$0.12	$0.10
February	.20	.18	.10¼	.10
March	.20	.18¼	.09½	.09½
April	.20	.19	.09¾	.09
May	.21	.19	.10	.09¼
June	Nominal		.09½	.09½
July	.18	.16	.09½	.08
August	.15	.14½	.09½	.08½
September	Nominal		.09¾	.09¼
October	.16½	.16	.09¼	.09¼
November	.14½	.14	.09¼	.09¼
December	.13½	.13	.09½	.08½
Year	.22	.13	.12	.08

Peanut Oil, Crude

On November 13, 1909, the price was 8c.; October 18 1911, 7@7¼c.; 1913, 6½@7½c.; 1919, November, $1.80.

(F. o. b. mills, in buyers' tanks.)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	Nominal		$0.07¼	$0.06¾
February	$0.22	$0.22	.06¾	.06
March	.22	.20½	.06	.06
April	.20	.18	.06	.05½
May	Nominal		.06¼	.05½
June	Nominal		.06¼	.06
July	Nominal		.06¼	.06
August	Nominal		.07¾	.07¼
September	Nominal		.08	.07½
October	Nominal		.08¾	.08
November	.09	.08	.07¾	.07¾
December	.07½	.07	.08	.07¾
Year	.22	.07	.08¾	.05½

Peanut Oil, Domestic, Refined

On August 5, 1916, the price was 12½@14c.; 1919, January, 21c.

(In barrels.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.28½	$0.27	$0.13	$0.12
February	.28½	.26	.13	.12
March	.28	.26	.11	.11
April	.26	.23	.11	.10
May	.25	.21½	.10¼	.10½
June	.22	.19	.10½	.10
July	.20	.18½	.10	.10
August	.18	.16	.10½	.10
September	.17	.16	.11¼	.10
October	.17	.16	.11½	.10
November	.16	.13½	.11¼	.11
December	.13	.12	.11	.11
Year	.28½	.12	.13	.10

Peanut Oil, Oriental

On May 20, 1918, the price was 18½c.; 1919, August, 26½c.

(F. o. b. Pacific Coast, sellers' tanks.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.24½	$0.24	$0.08	$0.07
February	.24½	.20½	.07¼	.06
March	.21¾	.20½	.06¼	.06
April	.20	.16½	.06½	.06
May	.16¾	.15½	.06¼	.06¼
June	.15½	.13	.06¾	.05¾
July	.13¼	.12½	.06	.06
August	.12½	.10	.07½	.07
September	.11½	.09½	.08	.07¾
October	.12½	.09¾	.08	.08
November	.10	.09	.08	.08
December	.09	.07¾	.08	.08
Year	.24½	.07¾	.08	.05¾

Peanut Oil Meal, 20 Per Cent.

On November 18, 1918, the price was $45; 1919, December, $80.

	Per short ton 1920. H.	1920. L.	1921. H.	1921. L.
January	†$80.00	$65.00	Nominal	
February	65.00	65.00	Nominal	
March	Nominal		Nominal	
April	Nominal		Nominal	
May	Nominal		Nominal	
June	Nominal		*$40.00	.....
July	Nominal		*40.00	.....
August	Nominal		*40.00	.....
September	Nominal		30.00	29.00
October	49.00	49.00	30.00	30.00
November	53.00	50.00	30.00	30.00
December	50.00	48.00	30.00	22.50
Year	80.00	48.00	40.00	22.50

*40 per cent.
†F. o. b. Boston.

Perilla Oil

On August 5, 1918, the price was 19c.; 1919, August, 26c.

(F. o. b. Pacific coast, sellers' tanks.)

	Per pound 1920. H.	1920. L.	1921. H.	1921. L.
January	$0.22¾	$0.22¼	$0.09¼	$0.07½
February	.22	.21¾	.07½	.07¼
March	.22	.21½	.06¾	.06¼
April	.21	.20½	.06¼	.06¼
May	.20	.17	.07	.06¼
June	.17½	.16½	.07	.07
July	.15	.13½	.07	.07
August	*.12½	.12	.09½	.09
September	.12¼	.12	.07½	.07½
October	.12¼	.11	.06¾	.06½
November	.11	.10	.06¼	.06½
December	.09	.08	Nominal	
Year	.22¾	.08	.09¼	.06¼

*Barrels, New York.

Poppy Seed Oil

On September 2, 1918, the price was $5; 1918, January, $5.

(In barrels.)

	Per gallon 1920. H.	1920. L.	1921. H.	1921. L.
January	$3.00	$3.00	$3.20	$3.20
February	3.25	3.00	3.20	3.20
March	3.25	3.25	3.00	3.00
April	3.50	3.50	3.00	3.00
May	3.50	3.50	3.00	3.00
June	3.50	3.50	3.00	3.00
July	3.50	3.50	3.00	3.00
August	3.50	3.50	3.00	3.00
September	3.50	3.50	2.50	2.50
October	3.50	3.50	2.50	2.50
November	3.50	3.20	2.50	2.50
December	3.20	3.20	2.50	2.50
Year	3.50	3.00	3.20	2.50

FALK
QUALITY
SINCE 1910
PRODUCTS

For more than ten years we have been producers of high quality

STEARIC ACID RED OIL FATTY ACIDS

Within the last year we have expanded our business and added new lines. Under the direction of Arthur C. Trask, for nearly twenty years with Marden, Orth & Hastings Company, we have installed modern equipment for the Sulphonation and Processing of Oils for the Tanners, Paint and Varnish Manufacturers, Textile and Miscellaneous Industries.

Falkene Sulphonated Oils

are the most highly standardized oils on the market. Every phase of the sulphonation and other processes is under the strictest physical and chemical control and every material used in their manufacture must conform with everything the words "absolute purity" demand.

Falkene "A" **Falkene Extra**
Falkene Sulphonated Cod Oil
Falkene Sulphonated Neatsfoot Oil
Falkene Sulphonated Castor Oil **Falko Soluble Moellon**
Moellon **Degras** **Degras Oil**
Pure Pressed Fish Oil **Pure Newfoundland Cod Oil**

Falkovar Processed Fish Oils

Blown Rapeseed Oil **Bodied Soya Bean Oil** **Bodied Castor Oil**
Corn Oil **Soya Bean Oil** **China Wood Oil**
Olive Oil **Olive Oil Foots**
Palm and Stearine Pitch

FALK COMPANY,

GENERAL OFFICES
Farmers Bank Building,
Pittsburgh, Pa.

130 N. Wells Street
CHICAGO

Real Estate Trust Bldg.
PHILADELPHIA, PA.
WORKS: Carnegie, Pa.

10 High St.
BOSTON

Rapeseed Oil, Blown

On May 12, 1902, the price was 67@68c.; October 18, 1901, 66@67c.; 1911, 72@75c.; 1913, 67@68c.; 1918, September, $2.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.70	$1.65	$1.35	$1.14
February	1.71	1.65	1.14	1.14
March	1.80	1.70	1.14	1.14
April	1.78	1.64	1.14	.86
May	1.76	1.75	1.00	.86
June	1.76	1.75	.90	.90
July	1.75	1.60	1.05	.90
August	1.55	1.25	1.10	.95
September	1.60	1.25	.95	.90
October	1.60	1.45	.95	.95
November	1.45	1.35	.95	.95
December	1.35	1.25	.95	.95
Year	1.80	1.25	1.35	.86

Rapeseed Oil, Refined

On October 18, 1871, the price was $1.15@1.30; 1881, 85c.@$1; 1891, 67½@70c.; 1901, 68@72c.; 1911, 69@72c.; 1913, 63@64c.; 1918, October, $1.92.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.60	$1.52	$1.12	$1.05
February	1.65	1.58	1.05	1.05
March	1.75	1.65	1.05	1.05
April	1.64	1.64	1.05	.86
May	1.70	1.64	.90	.85
June	1.70	1.60	.85	.85
July	1.65	1.55	.92	.85
August	1.50	1.20	.95	.85
September	1.45	1.20	.90	.90
October	1.45	1.30	.87	.86
November	1.35	1.25	.86	.83
December	1.15	1.10	.83	.83
Year	1.75	1.10	1.12	.83

Sesame Oil, Edible

On December 7, 1873, the price was $1.15@1.20; October 18, 1881, $1@1.10; 1891, 72@75c.; 1901, 67@70c.; 1911, 75@85c.; 1918, November, $4.

(In barrels.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	Nominal		$0.30	$0.22
February	Nominal		.22	.22
March	$0.30¼	$0.25½	.22	.22
April	.30¼	.29½	.22	.22
May	Nominal		.207	.20
June	Nominal		.20	.20
July	Nominal		.20	.20
August	Nominal		.20	.20
September	Nominal		.18	.18
October	.30	.30	.18	.18
November	.30	.27	.18	.17
December	.27	.27	.17	.17
Year	.30¼	.25½	.30	.17

Soya Bean Oil

On December 18, 1909, the price was 6½@6¾c.; October 18, 1911, 7½@7¾c.; 1913, 6⅞@6½c.; 1918, July, 20½c.

(In barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.19½	$0.18	$0.09½	$0.08
February	.19½	.17	.07¼	.06
March	.19	.18½	.06¼	.06¼
April	.18¾	.17½	.07	.07
May	.17¾	.17	.08	.07
June	.17¼	.16½	.08	.07⅝
July	.16	.15	.08½	.07⅝
August	.15	.13¼	.09	.08¼
September	.14	.13¼	.08¾	.08
October	.14	.12¾	.09½	.09
November	.12	.10¼	.08¾	.08¾
December	.10	.08½	.09	.09
Year	.19½	.08½	.09½	.06

Tallow, Vegetable, 51 Titre

On December 9, 1918, the price was 16c.; 1919, June, 22c.

(C. i. f. Pacific Coast, in barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	Nominal		Nominal	
February	Nominal		$0.07½	$0.07½
March	Nominal		.07¼	.07¼
April	Nominal		.07¼	.07¼
May	Nominal		.07¼	.07¼
June	Nominal		.06⅝	.06⅝
July	Nominal		.06⅝	.06⅝
August	*$0.12½	*$0.12½	.06⅝	.06⅝
September	*.12½	*.12½	.06⅝	.06⅝
October	Nominal		.06⅝	.06⅝
November	Nominal		.08	.06⅝
December	Nominal		.08	.08
Year	.12½	.12½	.08	.06⅝

*Ex dock. New York.

Tea Oil

On August 5, 1918, the price was 24@25c.; 1918, September, $3.

(In barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	Nominal		$0.24	$0.20
February	$0.23	$0.23	.20	.20
March	.23	.23	.20	.20
April	.23	.23	.20	.20
May	Nominal		.20	.20
June	Nominal		.20	.20
July	Nominal		*.11¼	*.11¼
August	Nominal		.15	.15
September	Nominal		.15	.15
October	Nominal		.15	.15
November	Nominal		.15	.15
December	.24	.24	.15	.11½
Year	.24	.23	.24	.11¼

*Sellers' tanks.

Fatty Acids, Coconut

On October 7, 1918, the price was 15c.; 1919, July, 17¾c.

(In barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.16½	$0.16	$0.06½	$0.06
February	.16½	.15	.06	.05¾
March	.15	.14½	.05¾	.04½
April	.15¼	.14½	.06	.04¾
May	.15¼	.14½	.06½	.05¾
June	.13¾	.12	.06½	.06¼
July	.13⅜	.11½	.06½	.06⅛
August	.13	.12	.06½	.06
September	*.10	*.09¼	.06½	.06½
October	†.08¾	†.08¾	.06½	.06½
November	.08	.06	.06½	.06½
December	.06½	.06	.06½	.06½
Year	.16½	.06	.06½	.04½

*Carload lots.
† F. o. b. Middle West.

Fatty Acids, Soya Bean

On October 7, 1918, the price was 15@15½c.; 1919, August, 18½c.

(In barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.15¾	$0.15	$0.06	$0.06
February	.15½	.14½	.06	.05⅝
March	.15	.15	.05⅝	.05
April	.15¼	.15	.06	.06
May	.15	.14½	.06¼	.06
June	.15	.12	.07¼	.06¼
July	.11	.10½	.07¼	.07¼
August	.12½	.10½	.07¼	.07¼
September	Nominal		.07¼	.07¼
October	Nominal		.07¼	.07¼
November	Nominal		.07¼	.07¼
December	Nominal		.07¼	.07¼
Year	.15⅝	.10½	.07¼	.05

GREASES, LARD, STEARINS, TALLOW

Grease, Brown

On March 4, 1907, the price was 5½@5¾c.; October 18, 1911, 5¼@5¾c.; 1913, 4¼@5¼c.; 1918, June, 16¾c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.13	$0.09	$0.04¾	$0.04
February	.13½	.09	.04½	.03½
March	.13	.11½	.04	.02½
April	.14	.12	.02¾	.02½
May	.11	.10	.03	.02½
June	.09	.08	.03	.02¼
July	.09	.08½	.03¼	.02¼
August	.09¼	.08	.04½	.02½
September	.08½	.07½	.03¾	.03½
October	.07½	.06½	.04	.03¾
November	.06	.04½	.04½	.04½
December	.04¼	.04	.04¾	.04¼
Year	.14	.04	.04¾	.02¼

Grease, House

On November 16, 1901, the price was 5¼@5½c.; October 18, 1911, 5¾@6¼c.; 1913, 5¼@5¾c.; 1919, July, 16½c.

(In drums)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.13½	$0.13½	$0.05½	$0.04½
February	.14½	.12¼	.04¾	.04½
March	.14	.12¼	.05	.04
April	.14	.12½	.04	.03½
May	.13¼	.10	.04¼	.03½
June	.10½	.09	.04	.03¼
July	.09¾	.09	.03½	.03¼
August	.09½	.08½	.04⅝	.03¼
September	.09½	.08¼	.05¼	.04½
October	.08½	.06¾	.05¼	.04½
November	.07	.06	.04½	.04½
December	.05	.05	.04¾	.04¼
Year	.15½	.05	.05½	.03¼

Lard, City Steamed

On February 18, 1874, the price was 9¾c. per pound; October 18, 1881, 12c.; 1891, 6.30@6.50c.; 1901, 9.20@9.30c.; 1911, 8¾c.; 1913, 10½c.; 1919, June, 35½c.

(In drums

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$23.75	$23.75	$13.00	$12.75
February	23.00	20.00	13.00	11.50
March	20.87½	20.00	11.75	11.35
April	19.60½	19.50	11.25	9.75
May	20.75	19.50	9.50	8.75
June	20.50	20.00	10.25	9.00
July	20.00	18.25	12.25	10.50
August	19.75	18.00	12.25	10.75
September	20.25	18.25	11.75	10.75
October	20.75	19.75	9.75	9.00
November	19.50	18.00	9.75	9.50
December	16.50	13.25	9.50	9.50
Year	23.75	13.25	13.00	8.75

Lard, Compound

On February 8, 1897, the price was 4@4¾c. per pound; October 18, 1901, 8@8½c.; 1911, 7½@7¾c.; 1913, 8⅝@8⅝c.; 1919, July, 30c.

(In drums)

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$25.50	$24.50	$11.75	$11.00
February	25.25	22.75	11.00	10.25
March	23.75	21.00	10.25	9.25
April	23.00	21.00	9.00	8.00
May	22.50	20.50	9.00	8.50
June	22.50	19.50	9.25	9.25
July	20.00	18.25	11.25	9.25
August	20.00	16.00	11.25	10.75
September	17.50	16.00	12.25	11.00
October	17.00	15.50	12.25	11.25
November	15.50	13.00	10.75	10.25
December	13.00	11.25	10.25	10.00
Year	25.50	11.25	12.25	8.00

Lard, Middle Western

On April 29, 1907, the price was 9.10c. per pound; October 18, 1911, 9.40c.; 1913, 10¾@10⅞c.; 1919, June, 36¼c.

(In carload lots.)

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$25.00	$24.00	$13.75	$13.50
February	21.25	23.12½	13.50	11.75
March	21.50	20.25	12.25	11.37½
April	20.50	20.00	11.50	9.35
May	21.25	20.00	10.30	9.50
June	21.00	20.50	10.75	9.50
July	20.25	18.50	12.75	11.00
August	19.50	18.50	12.65	11.00
September	20.75	18.62½	12.50	11.25
October	21.00	20.25	10.10	9.75
November	20.00	18.00	10.25	10.00
December	16.75	13.75	10.00	10.00
Year	25.00	13.75	13.75	9.35

Lard, Neutral

On February 8, 1897, the price was 5@5¾c. per pound; October 18, 1901, 12¼@12½c.; 1911, 10⅞c.; 1913, 11¾@12c.; 1919, June, 37½c.

(In drums.)

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$30.00	$27.50	$17.50	$16.50
February	28.00	24.50	16.00	14.50
March	26.00	24.00	14.50	14.50
April	26.00	25.50	14.50	12.50
May	26.00	25.00	12.25	12.25
June	26.00	24.50	12.50	11.75
July	25.00	24.00	13.50	12.00
August	25.00	22.00	15.00	14.00
September	23.50	22.00	15.00	14.00
October	26.75	24.50	14.00	13.00
November	27.00	22.00	13.75	11.50
December	22.00	19.00	11.50	10.75
Year	30.00	19.00	17.50	10.75

Stearin, Lard

On November 23, 1896, the price was 5@5¼c.; October 18, 1901, 10½@10¾c.; 1911, 10½@11c.; 1913, 12@12¼c.; 1919, July, 41c.

(In barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.31	$0.30	$0.16	$0.16
February	.31	.28	.16	.15
March	.28	.27	.15	.13½
April	.27	.27	.15	.13½
May	.29	.27	.13	.13
June	.28	.27	.12	.12
July	.28	.25	.15	.12
August	.25	.23	.15½	.15
September	.24	.23½	.15	.14½
October	.24½	.24½	.14	.13
November	.23	.22	.12¾	.12¾
December	.22	.18	.12¾	.12¾
Year	.31	.18	.16	.12

Stearin, Oleo

On January 4, 1891, the price was 6¼@6½c.; October 18, 1901, 11½@11¾c.; 1911, 10¼c.; 1913, 8½@8¾c.; 1919, July, 41c.

(In barrels.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.22½	$0.19½	$0.10¾	$0.08
February	.22	.18	.08¼	.07½
March	.18	.17¼	.07½	.07¼
April	.17½	.16½	.07	.06½
May	.16¼	.15½	.08	.07½
June	.15	.14	.07½	.07½
July	.14	.12	.11	.07
August	.14½	.13	.11½	.10¾
September	.16½	.14½	.11	.10¾
October	.16½	.14½	.10¾	.09¾
November	.13	.09	.09½	.07¼
December	.09	.07½	.08	.07¼
Year	.22½	.07½	.11½	.06½

Tallow, City Prime, Loose

On November 11, 1879, the price was 7¼@7⅝c.; October 18, 1881, 8¼c.; 1891, 4⅞c.; 1901, 5⅝@6c.; 1911, 6¾c.; 1913, 6⅝c.; 1919, October, 16½c.

(In drums.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	Nominal		$0.05½	$0.04¾
February	$0.12½	$0.12½	.05¼	.04¾
March	.14¾	.12½	.04¾	.04¼
April	Nominal		.04¼	.04
May	.13¼	.13¼	.04¼	.04
June	.10¼	.09¾	.04¼	.03⅝
July	.10	.09¾	.03⅝	.03⅜
August	.10¼	.09	.05	.03⅜
September	.10	.09	.05¼	.05¼
October	.09¾	.08¼	.05⅝	.04½
November	Nominal		.04½	.04½
December	.05	.04¾	.05	.04½
Year	.14¾	.04¾	.05¾	.03⅜

Tallow, City Special, Loose

On August 26, 1911, the price was 7@7¼c.; October 18, 1911, 7¼@7⅜c.; 1913, 6⅞c.; 1919, July, 21c.

(In drums.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.18	$0.16¾	$0.06½	$0.06
February	.16¾	.14½	.06	.05½
March	.15½	.14	.05¼	.05¼
April	.15½	.14½	.05¼	.05
May	.14¾	.12	.05¼	.05
June	.10¼	.09¾	.05	.04¾
July	.11	.10½	.04½	.04½
August	.11	.10	.06	.04¾
September	.11	.10	.06¾	.06¼
October	.10	.08	.06¾	.06
November	.08	.07¼	.06	.06
December	.07	.06¼	.06	.05¾
Year	.18	.06¼	.06¾	.04½

Tallow, Edible

On December 22, 1906, the price was 7¼c.; October 18, 1911, 7¾@8c.; 1913, 8@8½c.; 1919, July, 27c.

(In drums.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.21	$0.18¼	$0.08	$0.08
February	.19	.17	.08	.08
March	.18	.16½	.06½	.06
April	.17½	.15½	.06	.06
May	.17	.14	.07¼	.06
June	.14	.12½	.06½	.06
July	.12½	.12¼	.06½	.06
August	.12¾	.12	.08¾	.06
September	.15	.12	.08	.07½
October	.15	.13½	.08	.07½
November	.13½	.09	.07½	.07½
December	.09	.08	.08	.08
Year	.21	.08	.08¾	.06

PIGMENTS

Barytes

On October 18, 1871, the price was 1⅞@2¼c. 1881, $21@25 per ton; 1891, $18@20; 1901, $17@20; 1911, $18.50@20.50; 1913, $19@20; 1920, August, $40.

(Western f. o. b. works.)

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$31.00	$30.00	$24.50	$23.50
February	36.00	34.00	24.50	24.50
March	36.00	34.00	24.50	24.50
April	36.00	34.00	24.50	24.50
May	Nominal		24.50	24.50
June	Nominal		24.50	24.50
July	Nominal		24.50	24.50
August	40.00	35.00	24.50	23.00
September	40.00	35.00	23.00	23.00
October	35.00	35.00	23.00	23.00
November	40.00	32.00	23.00	23.00
December	38.00	32.00	23.00	23.00
Year	40.00	30.00	24.50	23.00

Blanc Fixe, Dry

On July 21, 1880, the price was 3½c.; October 18, 1881, 3½c.; 1891, 2⅝@3c.; 1901, 2½@2¾c.; 1911, 2⅞@4c.; 1913, 2⅞@4c.; 1920, August, 6½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.05	$0.04	$0.05½	$0.05
February	.05	.05	.05½	.05
March	.05	.05	.05	.04
April	.05½	.05	.05	.04
May	.05½	.05½	.05	.04
June	.06	.05½	.05	.04
July	.06½	.06	.05	.04
August	.06½	.06	.04½	.04
September	.06	.03	.04	.03⅜
October	.06	.06	.03¾	.03½
November	.06½	.05½	.03¾	.03½
December	.05¾	.05½	.04½	.04
Year	.06½	.04	.05½	.03½

White Lead, Basic Carbonate

On October 18, 1871, the price was 10@10¼c. 1881, 6⅝@7c.; 1891, 6¾@7¼c.; 1901, 4¾@5c.; 1911, 5½@6c.; 1913, 5¾c.; 1917, July, 11½c.

(Dry, in casks.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.10½	$0.09	$0.09	$0.08
February	.10½	.10	.08	.08
March	.11	.10½	.08	.08
April	.11	.10½	.08	.07½
May	.11	.10½	.08	.07½
June	.11	.10½	.08	.07½
July	.11	.10½	.08	.06½
August	.11	.10½	.07½	.06½
September	.11	.10½	.07½	.06½
October	.11	.10½	.07¼	.06½
November	.11	.09½	.07¼	.06½
December	.09½	.09	.07¼	.06½
Year	.11	.09	.09	.06½

White Lead Basic Carbonate in Oil

On October 18, 1871, the price was 11½c.; 1881, 7¼@7½c.; 1891, 6¾@7¼c.; 1901, 5¾@6½c.; 1911, 7¼@7½c.; 1913, 7¼c.; 1917, July, 11½c.

(Carload lots.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.1214	$0.1214	$0.1134	$0.1053
February	.1256	.1256	.1053	.1053
March	.1298	.1298	.1053	.0987
April	.1298	.1298	.1053	.0987
May	.1298	.1298	.1053	.0987
June	.1298	.1298	.1053	.0987
July	.1298	.1298	.1053	.09125
August	.1298	.1298	.0992	.09125
September	.1298	.1298	.0992	.09125
October	.1298	.1298	.0992	.09125
November	.1298	.1155	.0992	.09125
December	.1134	.1134	.0992	.09125
Year	.1298	.1134	.1134	.09125

White Lead, Basic Sulphate

On December 7, 1909, the price was 5¾@6c.; October 18, 1911, 5¾@5½c.; 1913, 5½c.; 1917, August, 11c.

(Dry, in casks.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.09¾	$0.08¾	$0.08¼	$0.07¼
February	.09¾	.09¼	.07½	.07¼
March	.09¾	.09¼	.07½	.07¼
April	.10¼	.09¾	.07½	.07¼
May	.10¼	.10	.07½	.07½
June	.10¼	.10	.07½	.07½
July	.10¼	.10	.07½	.06¾
August	.10¼	.10	.07	.06¾
September	.10¼	.10	.07	.06¾
October	.10¼	.10	.07	.06¾
November	.10¼	.08½	.07	.06¾
December	.08½	.08¼	.07	.06¾
Year	.10¼	.08¼	.08¼	.06¾

Red Lead

On October 18, 1871, the price was 8¾@10c. 1881, 6½@6¾c.; 1891, 6¾@7½c.; 1901, 5½@6c.; 1911, 6½@7c.; 1913, 7@7¼c.; 1917, July, 13c.

(Dry, in casks.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.12	$0.11½	$0.10½	$0.09¼
February	.12	.11⅝	.09½	.09¼
March	.12½	.12½	.09½	.09¼
April	.12½	.12¼	.09½	.09¼
May	.12½	.12¼	.09¼	.09½
June	.12½	.12¼	.09½	.09½
July	.12½	.12¼	.09½	.08
August	.12½	.12¼	.08¼	.08
September	.12½	.12¼	.08¼	.08
October	.12½	.12¼	.08¼	.08
November	.12½	.10½	.08¼	.08
December	.10½	.10¼	.10¼	.08
Year	.12½	.10¼	.10¼	.08

Litharge, American

On October 18, 1871, the price was 9@9½c. 1881, 6½@6¾c.; 1891, 6¾@7¼c.; 1901, 4¾@5¼c.; 1911, 5½@6c.; 1913, 6¾@7c.; 1917, July, 12½c.

(Carload lots.)

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.1214	$0.1214	$0.1134	$0.1053
February	.1256	.1256	.1053	.1053
March	.1298	.1298	.1053	.1053
April	.1298	.1298	.1053	.1053
May	.1298	.1298	.1053	.1053
June	.1298	.1298	.1053	.1053
July	.1298	.1298	.0992	.0992
August	.1298	.1298	.0992	.0992
September	.1298	.1298	.0992	.0992
October	.1248	.1175	.0992	.0992
November	.1250	.1155	.0992	.0992
December	.1134	.1134	.0992	.0992
Year	.1298	.1134	.1134	.0992

Orange Mineral, American

On October 18, 1871, the price was 11¼@12c.; 1881, 8@12½c.; 1891, 8½@8¾c.; 1901, 8@8¼c.; 1911, 8½@10c.; 1913, 8½@10c.; 1917, July, 15c.

(Per pound)

	1920.		1921.	
	H.	L.	H.	L.
January	$0.15⅜	$0.14½	$0.13¼	$0.11¾
February	.15¾	.14¾	.14	.12¼
March	.16½	.15½	.14	.12¼
April	.16½	.15½	.14	.12¼
May	.16½	.15½	.13½	.11¾
June	.16½	.15½	.13½	.11¾
July	.16½	.15½	.13½	.11¾
August	.16½	.15½	.13	.11
September	.16½	.15½	.13	.11
October	.16½	.15½	.13	.11
November	.16½	.13¼	.13	.11
December	.16	.13¼	.13	.11
Year	.16½	.13¼	.14	.11

Lithopone

On May 13, 1901, the price was 5@5½c.; October 18, 1901, 5@5½c.; 1911, 3¾@4c.; 1913, 3¾@4½c.; 1920, July, 8¼c.

(Per pound)

	1920.		1921.	
	H.	L.	H.	L.
January	$0.07¼	$0.07¼	$0.07¾	$0.07
February	.07½	.07¼	.07¼	.07
March	.07¾	.07½	.07¼	.07
April	.08¼	.08	.07¼	.07
May	.08¼	.08	.07¼	.07
June	.08¼	.08	.07¼	.07
July	.08¼	.08	.07¼	.07
August	.08¼	.08	.06¼	.06
September	.08¼	.08	.06¼	.06
October	.08¼	.08	.06¼	.06
November	.08	.07¼	.06¼	.06
December	.07¾	.07¾	.06¼	.06
Year	.08¼	.07¼	.07¾	.06

Zinc Oxide, French Process, Red Seal

On October 18, 1871, the price was 7¾c.; 1881, 4½@5c.; 1891, 8c.; 1901, 8¼@8¾c.; 1911, 8¼@8½c.; 1913, 7@7¼c.; 1917, April, 17½c.

(Per pound)

	1920.		1921.	
	H.	L.	H.	L.
January	$0.09¾	$0.09½	$0.10¼	$0.10¾
February	.11¾	.11½	.10½	.10
March	.11¾	.11½	.10½	.10
April	.11¾	.11½	.10½	.10
May	.11¾	.11½	.10½	.10
June	.11¾	.11½	.10½	.10
July	.11¾	.11½	.09¼	.08¾
August	.11¾	.11½	.09¼	.08¾
September	.11¾	.11½	.09¼	.08¾
October	.11¾	.11½	.09¼	.08¾
November	.11¾	.10¾	.09¼	.08¾
December	.11¼	.10¾	.09¼	.08¾
Year	.11¾	.09½	.10½	.08¾

Established 1865

FIFTY-SEVEN YEARS OF SERVICE

COOK & SWAN CO., Inc.

Successors to N. B. COOK OIL CO.
ALDEN S. SWAN & CO.

148 Front Street, New York

Cable Address, "COOKSWAN" **Telephone John 434**

IMPORTERS
REFINERS
WHOLESALERS

Crude and Refined

Fish, Cod, Sperm, Whale, Seal, Soya Bean, Corn,
Rapeseed, Perilla, China Wood, Cocoanut,
Castor, Cottonseed, Linseed, Lard,
Neatsfoot and Tallow Oils.
Fish Oil and Whale Oil Soap.
Cod Liver Oil.
Lubricating Greases, "Sulco-V. B." Insecticide.

The visible supply of industrial oils is low. The present market prices are very low. The prospective supply of these oils will be low at present range of prices. May we suggest the wisdom of buying in normal quantities for future needs.

DRY COLORS

Carbon Gas Black

On August 22, 1892, the price was 4@4½c.; October 18, 1901, 8@20c.; 1911, 6¾@8c.; 1913, 4@8c.; 1918, May, 40c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.12	$0.20	$0.10
February	.25	.12	.20	.12
March	.25	.12	.20	.10½
April	.25	.12	.20	.10½
May	.30	.15	.20	.10½
June	.30	.15	.20	.10½
July	.30	.15	.20	.10½
August	.30	.12	.20	.10½
September	.30	.12	.20	.10½
October	.30	.12	.20	.10½
November	.30	.12	.20	.10½
December	.30	.10	.20	.10½
Year	.30	.10	.20	.10

Lampblack

On October 18, 1871, the price was 6½@10c.; 1881, 5@8c.; 1891, 5@10c.; 1901, 4½@6c.; 1911, 3@15c.; 1913, 3@7c.; 1920, December, 48c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.45	$0.15	$0.48	$0.16
February	.45	.15	.45	.16
March	.45	.15	.45	.15
April	.45	.15	.45	.17
May	.45	.15	.45	.17
June	.45	.15	.45	.17
July	.45	.15	.45	.17
August	.45	.12	.45	.17
September	.40	.12	.45	.17
October	.40	.12	.45	.17
November	.40	.12	.45	.17
December	.48	.12	.45	.17
Year	.48	.12	.48	.15

Iron Blues

Bronze, Milori, Chinese and Prussian

On October 18, 1871, the price was (Prussian blue) 35@70c.; 1881, 30@60c.; 1891, 25@40c.; 1901, 28@34c.; 1911, 28@30c.; 1913, 30@32c.; 1917, July, $1.50.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.85	$0.80	$0.82	$0.60
February	.90	.80	.65	.60
March	.90	.85	.60	.60
April	.95	.90	.60	.60
May	1.00	1.00	.60	.55
June	1.00	.90	.60	.55
July	1.00	.95	.60	.50
August	1.00	.95	.50	.50
September	1.00	.95	.50	.50
October	1.00	.90	.50	.50
November	.95	.82	.50	.50
December	.82	.82	.50	.50
Year	1.00	.80	.82	.50

Browns

Sienna, Italian, Burnt

On October 18, 1871, the price was 12@14c.; 1881, 5½c.; 1891, 4@5c.; 1901, 3½@7½c.; 1911, 3@9c.; 1913, 4@7c.; 1920, January, 16c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.16	$0.05½	$0.15	$0.06
February	.16	.05½	.15	.06
March	.16	.08	.15	.06
April	.16	.08	.15	.06
May	.16	.08	.15	.06
June	.16	.08	.14½	.06
July	.16	.08	.14½	.06
August	.15	.06½	.14½	.06
September	.15	.06½	.14½	.06
October	.15	.06½	.14½	.06
November	.15	.06½	.14½	.06
December	.15	.06½	.14½	.06
Year	.16	.05½	.15	.06

Umber

(Turkey, burnt and powdered)

On May 29, 1872, the price was 4½@5c; August 31, 1881, 3¼@4c.; October 18, 1891, 3½@4c.; 1901, 2½@3½c.; 1911, 2¾@3½c.; 1913, 3@3½c.; 1917, October, 7½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.06½	$0.05	$0.07	$0.05
February	.06½	.05	.07	.05
March	.07	.05¾	.06½	.05½
April	.07	.05¾	.05½	.05¼
May	.07	.05½	.05½	.05¼
June	.07	.05½	.06	.05½
July	.07	.05½	.06	.05½
August	.07	.05½	.05½	.05½
September	.07	.05½	.05	.05
October	.07	.05½	.05	.04½
November	.07	.05½	.04¼	.04¼
December	.07	.05½	.04¼	.04¼
Year	.07	.05	.07	.04¼

Greens

Chrome Green

On October 18, 1871, the price was 13@21c.; 1881, 5@14c.; 1891, 8@26c.; 1901, 16@20c.; 1911, 17@25c.; 1913, 7@25c.; 1918, August, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.60	$0.37	$0.68	$0.38
February	.60	.37	.60	.38
March	.65	.39	.58	.37
April	.65	.39	.58	.36
May	.70	.42	.58	.36
June	.70	.42	.58	.36
July	.70	.42	.47	.32
August	.70	.42	.47	.32
September	.70	.42	.47	.32
October	.70	.42	.45	.30
November	.70	.42	.45	.30
December	.60	.45	.45	.30
Year	.70	.37	.68	.30

Chrome Green, Commercial

On October 24, 1877, the price was 10@20c.; October 18, 1881, 5@8c.; 1891, 8c.; 1901, 5@6½c.; 1911, 3½@5c.; 1913, 3½@5c.; 1919, February, 15c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.15	$0.07	$0.14	$0.13½
February	.15	.07	.13½	.13½
March	.15	.07	.13½	.13½
April	.15	.07	.13½	.13½
May	.15	.07	.13½	.13½
June	.15	.07	.13½	.12
July	.15	.07	.13½	.12
August	.15	.07	.12	.12
September	.15	.07	.12	.12
October	.15	.07	.12	.12
November	.15	.07	.12	.12
December	.14	.14	.14	.12
Year	.15	.07	.14	.12

Paris Green

On October 18, 1871, the price was 25@35c.; 1881, 17@18c.; 1891, 14@22c.; 1901, 12½@14½c.; 1911, 13c.; 1913, 12@13c.; 1917, July, 51c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.36	$0.34	$0.35	$0.35
February	.36	.36	.35	.33
March	.36	.36	.35	.30
April	.40	.36	.30	.29
May	.40	.36	.29	.29
June	.40	.40	.29	.25
July	.40	.40	.25	.22
August	.34	.32	.23	.22
September	.34	.32	.23	.22
October	.34	.32	.23	.22
November	.35	.32	.23	.22
December	.35	.35	.23	.22
Year	.40	.32	.35	.22

Reds

Carmine, No. 40 Bulk, 11-lb. Tins

On August 15, 1877, the price was $5.50@7; October 18, 1881, $5@5.25; 1891, $3.10@3.20; 1901, $2.05@2.75; 1911, $2.30@2.50; 1913, $2.75@3; 1919, January, $6.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.50	$5.20	$5.50	$5.00
February	5.50	5.20	5.00	5.00
March	5.50	5.20	5.00	5.00
April	5.50	5.20	5.00	5.00
May	5.75	5.20	5.00	5.00
June	5.75	5.75	5.00	5.00
July	5.75	5.75	5.00	4.75
August	5.75	5.75	4.75	4.50
September	5.75	5.75	4.75	4.50
October	5.75	5.75	4.75	4.50
November	5.75	5.50	4.75	4.50
December	5.50	5.50	4.75	4.50
Year	5.75	5.20	5.50	4.50

Indian Red, American

On September 8, 1880, the price was 1½@1¾c.; October 18, 1881, 1½@1¾c.; 1891, 3½@6½c.; 1901, 3@3¼c.; 1911, 1½@1¾c.; 1913, 1½@1¾c.; 1919, January, 16c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.16	$0.14	$0.16½	$0.14
February	.16	.14	.16½	.14
March	.16	.14	.16½	.08
April	.16	.14	.10	.08
May	.16	.14	.10	.08
June	.16	.14	.10	.08
July	.16	.15	.10	.08
August	.16	.12	.10	.08
September	.16	.12	.14	.08
October	.12	.12	.12	.08
November	.16	.12	.12	.08
December	.16	.14	.12	.08
Year	.16	.12	.16½	.08

Venetian Red

On October 18, 1871, the price was 2½@3c.; 1881, 1¼@1¾c.; 1891, 1¼@1½c.; 1901, 1¾@3c.; 1911, 1¼@1¾c.; 1913, 1½@1¾c.; 1920, November, 10c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.04	$0.02½	$0.09	$0.03½
February	.05	.02½	.06½	.03½
March	.05	.02½	.06½	.03½
April	.05	.02½	.06½	.03½
May	.07	.02½	.06½	.03½
June	.07	.03¾	.06½	.03½
July	.07	.03¾	.06½	.03½
August	.09	.03¾	.06½	.03½
September	.10	.03¾	.06½	.03½
October	.06	.06	.06½	.03½
November	.10	.06	.06½	.03½
December	.09	.03½	.06½	.03½
Year	.10	.02½	.09	.03½

English Vermilion

On October 18, 1871, the price was $1@1.10; 1881, 54c.; 1891, 91@95c.; 1901, 80@90c.; 1911, 70c.; 1913, 70c.; 1919, January, $2.10.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.50	$1.40	$1.10	$1.00
February	1.60	1.35	1.10	1.00
March	1.60	1.35	1.10	1.00
April	1.70	1.35	1.10	.95
May	1.75	1.60	.95	.90
June	1.75	1.70	.95	.90
July	1.70	1.60	.95	.90
August	1.70	1.55	.90	.80
September	1.60	1.55	.80	.75
October	1.50	1.40	.75	.70
November	1.45	1.10	.80	.75
December	1.10	1.00	.90	.80
Year	1.75	1.00	1.10	.70

Oxide Red, Copperas, in Casks

On May 13, 1907, the price was 2@7½c.; October 18, 1911, 2¾@10c.; 1913, 2¾@10c.; 1918, July, 20c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.16	$0.12	$0.17	$0.15
February	.18	.14	.19	.15
March	.18	.14	.15	.13
April	.18	.14	.16	.13
May	.18	.14	.16	.13
June	.18	.14	.16	.13
July	.18	.15	.16	.13
August	.18	.15	.16	.10
September	.18	.15	.14	.10
October	.18	.15	.14	.10
November	.15	.15	.14	.10
December	.17	.15	.14	.10
Year	.18	.12	.19	.10

Tuscan Red

On August 15, 1877, the price was 20@25c.; October 18 1881, 11½@13c.; 1891, 7@10c.; 1901, 7@10c.; 1911, 7@10c.; 1913, 7@10c.; 1921, November, 44c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.30	$0.22	$0.30	$0.22
February	.30	.22	.30	.22
March	.30	.22	.30	.22
April	.30	.22	.35	.17½
May	.30	.22	.30	.17½
June	.30	.22	.30	.17½
July	.30	.22	.30	.17½
August	.30	.22	.30	.17½
September	.35	.22	.30	.17½
October	.22	.22	.30	.17½
November	.18	.15	.44	.17½
December	.18	.15	.44	.17½
Year	.35	.15	.44	.17½

Yellows

Chrome Yellow, C. P.

On October 18, 1871, the price was 22@23c.; 1881, 10@30c.; 1891, 10@25c.; 1901, 10½@25c.; 1911, 12½@13c.; 1913, 11@13c.; 1918, March, 35c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28	$0.26	$0.29	$0.25
February	.28	.26	.25	.22
March	.30	.26	.22	.22
April	.35	.28	.22	.21
May	.35	.35	.21	.21
June	.35	.35	.21	.21
July	.35	.35	.21	.21
August	.35	.35	.21	.20
September	.35	.35	.20	.18
October	.35	.32	.18	.18
November	.33	.29	.18	.18
December	.29	.29	.18	.17
Year	.35	.26	.29	.17

Yellow Ocher, Domestic, Strong

On October 18, 1871, the price was 1¼@1½c.; 1881, 1¼@1½c.; 1891, 1¾@2¼c.; 1901, 1½@2c.; 1911, 1¼@2c.; 1913, ¾@¾c.; 1919, August, 5½c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.02¾	$0.02¾	$0.03	$0.03
February	.02¾	.02¾	.03	.03
March	.02¾	.02¾	.03	.03
April	.02¾	.02¾	.03	.03
May	.02¾	.02¾	.03	.03
June	.02¾	.02¾	.03	.03
July	.02¾	.02¾	.03	.03
August	.02¾	.02¾	.03	.03
September	.03	.02¾	.03	.03
October	.03	.03	.03	.03
November	.03	.03	.03	.03
December	.03	.03	.03	.03
Year	.03	.02¾	.03	.03

China Clay, Imported

On October 18, 1871, the price was 2¼@2½c.; 1881, $14.50@21 per ton; 1891, $13@18; 1901, $12@17; 1911, $11@18; 1913, $11@18; 1918, August, $50.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$23.50	$18.00	$25.00	$16.00
February	23.50	18.00	25.00	16.00
March	23.50	18.00	25.00	16.00
April	23.50	18.00	25.00	16.00
May	23.50	18.00	25.00	16.00
June	23.50	18.00	25.00	16.00
July	25.00	19.00	24.00	16.00
August	25.00	19.00	24.00	16.00
September	25.00	19.00	24.00	16.00
October	19.00	19.00	24.00	16.00
November	25.00	19.50	24.00	16.00
December	18.00	16.00	24.00	16.00
Year	25.00	16.00	25.00	16.00

China Clay, Domestic

On November 30, 1891, the price was $9@12; October 18, 1901, $8.50@10; 1911, $8@9; 1913, $8@9; 1919, March, $25.

(F. o. b. point of production.)

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$20.00	$8.50	$12.00	$10.00
February	20.00	8.50	12.00	10.00
March	20.00	8.50	12.00	10.00
April	20.00	8.50	12.00	10.00
May	20.00	8.50	12.00	7.50
June	20.00	8.50	9.00	7.50
July	20.00	8.50	9.00	7.50
August	20.00	10.00	9.00	7.50
September	20.00	10.00	9.00	7.50
October	20.00	10.00	9.00	7.50
November	20.00	10.00	9.00	7.50
December	12.10	12.10	9.00	7.50
Year	20.00	8.50	12.00	7.50

Fuller's Earth, Powdered

On February 18, 1895, the price was 75@80c. per 100 pounds; October 18, 1901, 75@80c.; 1911, 80@85c.; 1913, 80@85c.; 1918, July, $2.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	*$2.00	*$1.50	$20.00	$17.00
February	2.00	1.50	22.00	17.00
March	2.00	1.50	24.50	22.00
April	2.00	1.50	22.00	22.00
May	2.00	1.50	22.00	22.00
June	†17.00	†17.00	22.00	22.00
July	17.00	17.00	22.00	22.00
August	17.00	17.00	22.00	22.00
September	17.00	17.00	22.00	22.00
October	17.00	17.00	22.00	22.00
November	20.00	17.00	22.00	22.00
December	20.00	17.00	22.00	22.00
Year	40.00	17.00	24.50	17.00

* Per 100 pounds.
† Per ton.

Plaster of Paris

On August 15, 1877, the price was $3; October 18, 1881, $1.75; 1891, $1.75@2; 1901, $1.75; 1911, $1.50@1.70; 1913, $1.50@1.75; 1920, November, $5.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$3.00	$2.00	$5.00	$4.25
February	3.00	2.00	5.00	4.25
March	3.00	2.00	5.00	4.25
April	3.00	2.00	5.00	4.25
May	3.00	2.00	5.00	4.25
June	3.00	2.00	5.00	4.25
July	3.00	2.00	5.00	4.25
August	3.00	2.00	5.00	4.25
September	5.00	4.25	5.00	4.25
October	4.25	4.25	5.00	4.25
November	5.00	4.25	5.00	4.25
December	5.00	4.25	5.00	4.25
Year	5.00	2.00	5.00	4.25

Putty, Commercial 1 and 5-lb. Tins

On October 18, 1871 the price in 12½-lb. tins was 3¾@4¼c.; 1881, 2½@2¾c.; 1891, 2¾@2½c.; 1901, 2¼c.; 1911, 1½@2c.; 1913, 1 to 5-pound tins, $1.50@1.90 per 100 pounds; 1918, July, $7.40.

	Per 100 lbs.		Per pound	
	1920.		1921.	
	H.	L.	H.	L.
January	$7.35	$6.00	$0.06¾	$0.05
February	7.35	6.00	.06½	.05
March	7.35	6.00	.06½	.05
April	7.35	6.00	.06¾	.05¼
May	6.50	5.25	.06¾	.05¼
June	6.75	5.25	.06¾	.05¼
July	6.75	5.25	.06¾	.05¼
August	6.75	5.25	.06¾	.05¼
September	6.75	5.25	.06¾	.05¼
October	5.25	5.25	.06¾	.05¼
November	6.75	5.25	.06¾	.05¼
December	6.75	5.25	.06¾	.05¼
Year	7.35	5.25	.06¾	.05

Silica

On January 25, 1888, the price was $14@25; October 18, 1891, $14@25; 1901, $12@18; 1911, $12@40; 1913, $12@40; 1918, July, $40.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$40.00	$22.00	$40.00	$25.00
February	40.00	22.00	40.00	25.00
March	40.00	22.00	40.00	25.00
April	40.00	22.00	40.00	25.00
May	40.00	22.00	40.00	25.00
June	40.00	22.00	40.00	25.00
July	40.00	22.00	35.00	12.00
August	40.00	22.00	35.00	12.00
September	40.00	25.00	35.00	12.00
October	40.00	25.00	35.00	12.00
November	40.00	25.00	35.00	12.00
December	40.00	25.00	35.00	12.00
Year	40.00	22.00	40.00	12.00

Terra Alba, American, No. 1

On October 24, 1888, the price was 65@70c.; October 18, 1891, $1; 1901, 65@85c.; 1911, 75@80c.; 1913, 75@80c.; 1921, January, $2.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.25	$1.25	$2.00	$1.50
February	1.25	1.25	2.00	2.00
March	1.25	1.25	2.00	1.85
April	1.25	1.25	2.00	1.85
May	1.25	1.25	2.00	1.85
June	1.25	1.25	2.00	1.85
July	1.25	1.25	2.00	1.85
August	1.25	1.25	2.00	1.85
September	1.50	1.50	2.00	1.85
October	1.50	1.50	2.00	1.85
November	1.50	1.50	2.00	1.85
December	1.50	1.50	2.00	1.85
Year	1.50	1.25	2.00	1.50

Talc, American

On November 30, 1891, the price was $1@1.25 per 100 pounds; October 18, 1901, 90c.@$1.10; 1911, $15@20 per ton; 1913, $15@20; 1918, July, $40.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$40.00	$20.00	$20.00	$18.00
February	40.00	20.00	20.00	18.00
March	40.00	20.00	20.00	18.00
April	40.00	20.00	20.00	18.00
May	40.00	20.00	20.00	18.00
June	40.00	20.00	20.00	18.00
July	20.00	18.00	20.00	18.00
August	20.00	18.00	20.00	18.00
September	20.00	18.00	20.00	18.00
October	20.00	18.00	20.00	18.00
November	20.00	18.00	20.00	18.00
December	20.00	18.00	20.00	18.00
Year	40.00	18.00	20.00	18.00

Whiting, Commercial

On October 18, 1871, the price was 1c. per pound; 1881, 50@55c. per 100 pounds; 1891, 70@75c.; 1901, 40@60c.; 1911, 45@50c.; 1913, 45@50c.; 1920, April, $1.40.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.20	$1.15	$1.40	$1.40
February	1.20	1.15	1.40	1.30
March	1.20	1.15	1.30	1.25
April	1.40	1.20	1.25	1.20
May	1.40	1.40	1.25	1.20
June	1.40	1.40	1.25	1.20
July	1.40	1.40	1.25	1.15
August	1.40	1.40	1.15	1.15
September	1.40	1.40	1.15	1.15
October	1.40	1.40	1.15	1.15
November	1.40	1.40	1.15	1.15
December	1.40	1.40	1.15	1.15
Year	1.40	1.15	1.40	1.15

VARNISH GUMS

Congo, Copal Picture

On February 8, 1909, the price was 30@35c.; October 18, 1911, 30@35c.; 1913, 30@34c.; 1918, July, 45c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.40	$0.35	$0.40	$0.36
February	.40	.35	.38	.34
March	.45	.35	.36	.34
April	.45	.45	.36	.34
May	.45	.45	.36	.34
June	.45	.42	.36	.34
July	.45	.42	.36	.34
August	.45	.42	.36	.34
September	.45	.42	.36	.34
October	.42	.42	.36	.34
November	.40	.38	.36	.34
December	.40	.38	.36	.34
Year	.45	.35	.40	.34

Damar, Batavia

On October 18, 1871, the price was 13c.; 1881, 18@21c.; 1891, 16@18c.; 1901, 12½@13½c.; 1911, 12½@12¾c.; 1913, 20@21c.; 1920, March, 60c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.50	$0.50	$0.28	$0.25
February	.57	.50	.22	.20
March	.60	.55	.22	.19
April	.60	.50	.19	.18
May	.60	.50	.19	.18
June	.55	.53	.19	.18½
July	.55	.53	.19	.18½
August	.55	.53	.19	.18½
September	.43	.42	.20	.19
October	.40	.40	.20	.19½
November	.32	.30	.20	.19½
December	.28	.26	.27	.24
Year	.60	.26	.28	.18

Kauri, No. 1

On October 18, 1871, the price for ordinary to prime was 11@12c.; 1881, 10@15c.; 1891, 13½@14½c.; 1901, 26@30c.; 1911, 20@24c.; 1913, 50c.; 1920, March, 60c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.55	$0.52	$0.57	$0.56
February	.55	.53	.57	.56
March	.60	.54	.56	.54
April	.60	.57	.56	.54
May	.60	.57	.56	.54
June	.60	.57	.56	.54
July	.60	.57	.56	.54
August	.60	.57	.56	.54
September	.57	.56	.56	.54
October	.57	.56	.56	.54
November	.57	.56	.56	.54
December	.57	.56	.56	.54
Year	.60	.52	.57	.54

Gilsonite

On May 27, 1907, the price was 2½@3½c. per pound; October 18, 1911, $36@50 per ton; 1913, $36@50; 1919, March, $60.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$60.00	$47.50	$65.00	$60.00
February	60.00	50.00	65.00	60.00
March	55.00	55.00	65.00	60.00
April	55.00	55.00	65.00	60.00
May	55.00	55.00	65.00	60.00
June	65.00	55.00	65.00	60.00
July	65.00	55.00	65.00	60.00
August	65.00	55.00	65.00	60.00
September	65.00	55.00	60.00	60.00
October	65.00	55.00	65.00	60.00
November	65.00	55.00	65.00	60.00
December	65.00	60.00	65.00	60.00
Year	65.00	47.50	65.00	60.00

"That Which Is Without Price"

In the city of Bagdad lived Hakeem, the Wise One, and many people went to him for counsel, which he gave freely to all, asking nothing in return.

There came to him a young man, who had spent much but got little, and said: "Tell me, Wise One, what shall I do to receive most for that which I spend?"

Hakeem answered, "A thing that is bought or sold has no value unless it contains that which cannot be bought or sold. Look for That Which Is Without Price."

"But, what is this thing which is without Price?" asked the young man.

Spoke then the Wise One, "My son, That which is Without Price in every product in the market-place is the Honor and Integrity of him who makes it. Consider his name before you buy."

Pecora Standard has been lodged for a period of sixty years in the minds and memories of an ever increasing circle of consumers and has an enviable record of successful results in the various lines we manufacture.

Pecora products are in demand by architects, jobbers, manufacturers and retailers because they contain "That Which Is Without Price."

PECORA PAINT COMPANY

FOURTH & VENANGO STREETS PHILADELPHIA, PA.

Established by Smith Bowen in 1862

S. B. BOWEN, President
S. B. BOWEN, JR., Vice-President
JOHN H. JOHNSON, Secretary
J. J. SCHISSELBAUER, Treasurer

Manila, Pale

On August 22, 1877, the price was 7½@8c.; March 18, 1881, 10@18c.; October 18, 1891, 17@25c.; 1901, 14@16c.; 1911, 15@18c.; 1913, 15@18c.; 1920, May, 30c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28	$0.27	$0.25	$0.22
February	.28	.27	.24	.22
March	.28	.27	.24	.22
April	.28	.27	.21	.20
May	.30	.27	.21	.20
June	.27	.25	.21	.20
July	.27	.25	.21	.20
August	.27	.25	.21	.20
September	.25	.23	.21	.20
October	.25	.23	.21	.20
November	.25	.23	.21	.20
December	.25	.23	.21	.20
Year	.30	.23	.25	.20

Pontiak, No. 1

On July 1, 1907, the price was 17c.; October 18, 1911, 12½@13½c.; 1913, 13½@15c.; 1919, December, 45c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.45	$0.43	$0.25	$0.21
February	.45	.43	.24	.20
March	.45	.43	.21	.20
April	.45	.43	.20	.19
May	.45	.43	.20	.19
June	.43	.40	.20	.19
July	.43	.40	.20	.19
August	.43	.40	.20	.19
September	.30	.28	.20	.19
October	.30	.28	.20	.19
November	.25	.23	.20	.19
December	.25	.23	.20	.19
Year	.45	.23	.25	.19

GLUES

Cabinet

On October 18, 1871, the quotation for white glue was 35@50c.; 1881, 15@24c.; 1891, 14@25c.; 1901, 18@23c.; 1911, 18@24c.; 1913, 13@15c.; 1917, October 17c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.36	$0.25	$0.36	$0.24
February	.36	.25	.35	.24
March	.36	.25	.35	.20
April	.36	.25	.35	.20
May	.36	.25	.35	.20
June	.36	.25	.35	.20
July	.36	.25	.35	.20
August	.36	.25	.35	.20
September	.36	.25	.32	.18
October	.36	.25	.32	.18
November	.36	.25	.32	.18
December	.36	.25	.32	.18
Year	.36	.25	.36	.18

Common Bone

On October 18, 1871, the price was 18@25c.; 1881, 8@11c.; 1891, 7@9c.; 1901, 6½@8c.; 1911, 7½@9c.; 1913, 7½@9c.; 1917, August, 25c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.15	$0.11	$0.19	$0.16
February	.15	.11	.18	.16
March	.15	.11	.19	.13
April	.15	.11	.19	.13
May	.20	.16	.19	.11
June	.21	.18	.18	.11
July	.21	.18	.18	.10
August	.21	.18	.16	.10
September	.21	.18	.16	.10
October	.21	.18	.14	.09
November	.21	.18	.14	.09
December	.20	.17	.14	.09
Year	.21	.11	.19	.09

Extra White

On November 1, 1876, the price was 38c.; October 18, 1881, 27@35c.; 1891, 18@25c.; 1901, 18@23c.; 1911, 18@24c.; 1913, 18@24c.; 1917, November, 45c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.40	$0.35	$0.45	$0.35
February	.40	.35	.45	.35
March	.40	.35	.30	.25
April	.40	.35	.40	.30
May	.45	.35	.40	.30
June	.45	.35	.40	.30
July	.45	.35	.40	.30
August	.45	.35	.40	.30
September	.45	.35	.40	.30
October	.45	.35	.40	.30
November	.45	.35	.40	.30
December	.45	.35	.40	.30
Year	.45	.35	.45	.25

NAVAL STORES

Pine Oil, Steam Distilled

On June 13, 1912, the price was 35@45c.; October 18, 1913, 35@45c.; 1920, July, $2.10.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.30	$1.25	$1.60	$1.45
February	1.25	1.20	1.50	1.45
March	1.25	1.20	1.50	1.40
April	1.35	1.25	1.40	1.30
May	1.35	1.25	1.35	1.30
June	1.85	1.45	1.35	1.30
July	2.10	2.00	1.35	1.05
August	2.10	2.00	1.15	1.05
September	2.10	1.90	1.20	1.20
October	1.86	1.86	1.20	1.10
November	1.90	1.86	1.20	1.15
December	1.60	1.55	1.20	1.15
Year	2.10	1.20	1.60	1.05

Pitch

On October 18, 1871, the price was $4@4.25; 1881, $2.25@2.30; 1891, nominal; 1901, $1.60@1.75; 1911, $4@4.50; 1913, $4.25@4.50; 1920, June, $15.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$8.50	$8.50	$10.00	$9.00
February	8.50	8.50	14.50	9.00
March	8.50	8.50	14.50	14.50
April	8.50	8.50	14.50	7.00
May	8.50	8.50	7.20	7.00
June	15.00	14.50	7.20	7.00
July	14.50	14.00	7.00	7.00
August	14.50	14.00	7.00	6.50
September	14.00	12.00	6.50	6.00
October	12.00	10.50	7.00	6.00
November	10.50	10.50	6.00	6.00
December	10.00	9.50	6.00	6.00
Year	15.00	8.50	14.50	6.00

Rosin, Common Strained

On October 18, 1871, the price was $4.10@4.17½; 1881, $2.50@2.52½; 1891, $1.32½@1.35; 1901, $1.42½; 1911, $6.90; 1913, $3.95@4.25; 1920, May, $20.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$19.20	$17.00	$8.50	$8.10
February	19.10	18.00	8.00	6.75
March	18.00	17.25	6.25	5.70
April	18.50	18.50	5.00	4.50
May	20.00	19.00	5.25	5.00
June	19.00	13.50	5.00	4.90
July	13.50	12.75	5.20	4.95
August	14.50	13.50	5.25	4.70
September	14.25	13.75	5.35	5.25
October	13.75	12.45	5.50	5.35
November	13.45	12.25	5.75	5.45
December	10.50	8.50	5.45	5.20
Year	20.00	8.50	8.50	4.50

Rosin, Florida, Grade I

On February 15, 1881, the price was $2.50; October 18, 1881, $7.50; 1891, $2; 1901, $1.75; 1911, $7.10; 1913, $4.10@4.15; 1919, September, $21.25.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$20.10	$18.65	$9.00	$8.50
February	19.60	17.90	8.00	6.75
March	19.85	18.55	6.25	5.25
April	20.35	19.75	5.85	5.35
May	20.50	20.35	5.80	5.50
June	20.35	18.90	5.60	5.35
July	18.40	15.85	5.40	5.15
August	15.85	14.50	5.50	5.00
September	14.25	13.75	6.35	5.50
October	13.25	12.45	5.95	5.75
November	12.85	11.25	5.80	5.65
December	9.00	8.50	5.60	5.30
Year	20.50	8.50	9.00	5.00

Rosin, Florida, Grade K

On February 15, 1881, the price was $2.75; October 18, 1891, $2.20; 1901, $2.30; 1911, $7.15; 1913, $4.70@4.80; 1919, July, $22.75.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$20.60	$19.75	$9.00	$8.50
February	20.00	18.50	8.00	6.75
March	20.00	18.75	6.25	5.75
April	20.50	19.80	5.90	5.50
May	22.50	20.50	6.25	5.75
June	20.50	18.40	6.25	5.55
July	18.40	15.85	5.70	5.50
August	15.85	14.50	5.75	5.20
September	14.25	13.75	6.45	5.55
October	13.25	12.45	6.25	6.00
November	12.85	11.25	6.10	6.10
December	9.00	8.50	6.15	6.00
Year	22.50	8.50	9.00	5.20

Rosin, Water White

On January 21, 1885, the price was $3; October 18 1891, $4; 1901, $4.10; 1911, $8; 1913, $6.95@7.10; 1919, September, $25.50.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$24.00	$22.25	$9.25	$8.80
February	23.50	21.75	8.30	7.00
March	22.50	21.75	6.75	6.60
April	24.00	21.75	7.00	6.25
May	24.50	24.00	7.50	7.00
June	24.00	18.60	8.50	7.50
July	18.60	16.25	7.90	7.75
August	16.25	14.50	7.50	6.85
September	14.25	13.75	7.60	7.00
October	13.25	12.45	7.25	7.15
November	13.25	11.50	7.75	7.25
December	9.25	8.75	7.70	7.25
Year	24.50	8.75	9.25	6.25

Rosin Oil

On October 18, 1871, the price was 28c.; 1881, 14½c.; 1891, 10@10½c.; 1901, 15c.; 1911, 36c.; 1913, 27c.; 1920, January, 97c.

(First rectified)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.97	$0.91	$0.65	$0.60
February	.92	.92	.51	.47½
March	.90	.90	.47½	.40
April	.90	.90	.40	.40
May	.90	.87	.40	.36
June	.87	.71	.35	.35
July	.71	.69	.33	.33
August	.74	.71	.37	.35
September	.74	.70	.37	.37
October	.75	.69	.37	.35
November	.71	.67	.37	.35
December	.65	.60	.37	.37
Year	.97	.60	.65	.33

Rosin Oil

On October 18, 1871, the price was 32c.; 1881, 17½c.; 1891, 12c.; 1901, 17c.; 1911, 41c.; 1913, 38c.; 1920, February, $1.05.

(Second rectified)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.00	$0.94	$0.67	$0.63
February	1.05	.95	.53	.50
March	.92	.92	.50	.43
April	.93	.92	.45	.43
May	.93	.90	.45	.38
June	.90	.74	.38	.38
July	.74	.72	.35	.35
August	.77	.74	.39	.37
September	.77	.73	.39	.39
October	.74	.72	.39	.37
November	.74	.74	.39	.37
December	.68	.63	.39	.39
Year	1.05	.63	.67	.35

Rosin Oil

On October 18, 1871, the price was 35c.; 1881, 20½c.; 1891, 14@14½c.; 1901, 19c.; 1911, 46c.; 1913, 48c.; 1920, March, $1.15.

(Third Rectified.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.13	$1.09	$0.70	$0.65
February	1.14	1.09	.55	.53
March	1.15	1.11	.53	.45
April	1.11	1.11	.55	.45
May	1.11	1.08	.55	.44
June	1.08	.91	.44	.43
July	.91	.88	.40	.40
August	.93	.91	.43	.42
September	.93	.89	.44	.44
October	.74	.72	.44	.44
November	.86	.86	.44	.44
December	.80	.70	.47	.47
Year	1.15	.70	.70	.40

Rosin Oil

On October 18, 1871, the price was 40c.; 1881, 23c.; 1891, 17c.; 1901, 21c.; 1911, 51c.; 1913, 60c.; 1920, January, $1.23.

(Fourth Rectified.)

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.23	$1.17	$0.85	$0.85
February	1.23	1.16	.78	.75
March	1.19	1.15	.75	.68
April	1.15	1.15	.68	.65
May	1.15	1.12	.65	.52
June	1.12	.95	.52	.51
July	.95	.94	.48	.48
August	1.03	.95	.52	.50
September	1.03	.95	.52	.52
October	.95	.94	.52	.52
November	.92	.92	.52	.52
December	.86	.85	.53	.53
Year	1.23	.85	.85	.48

Tar, Kiln Burned

On October 18, 1871, the price was $3.25@3.37½; 1881, $3.25; 1891, $1.80; 1901, $1.90; 1911, $7.75; 1913, $7; 1920, February, $15.50.

	Per barrel			
	1920.		1921.	
	H.	L.	H.	L.
January	$14.50	$14.50	$15.00	$14.50
February	15.50	15.00	14.75	14.75
March	15.00	14.50	14.75	14.75
April	14.50	14.50	14.75	12.50
May	14.50	14.50	12.50	11.50
June	14.50	14.50	11.50	11.50
July	14.75	14.50	11.50	11.50
August	15.00	14.75	12.00	11.50
September	15.00	15.00	11.50	11.00
October	15.00	14.75	11.00	10.00
November	14.75	14.75	10.00	10.00
December	15.00	14.50	9.50	9.50
Year	15.50	14.50	15.00	9.50

Tar Oil, Genuine Distilled

On April 4, 1914, the price was 20@30c.; 1920, December, 77c.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.59	$0.58	$0.77	$0.75
February	.59	.58	.76	.70
March	.59	.58	.70	.70
April	.59	.58	.70	.60
May	.59	.58	.65	.60
June	.62	.60	.65	.50
July	.62	.60	.65	.50
August	.62	.60	.50	.50
September	.62	.60	.50	.50
October	.75	.60	.50	.50
November	.75	.60	.50	.50
December	.77	.75	.50	.50
Year	.77	.58	.77	.50

Turpentine

On October 18, 1871, the price was 71@73c.; 1881, 52@53c.; 1891, 37@37½c.; 1901, 38@38½c.; 1911, 51c.; 1913, 45@45½c.; 1920, April, $2.65.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.97	$1.69	$0.76	$0.70
February	2.03	1.92	.62	.56
March	2.37	1.99	.61	.54
April	2.65	2.47	.64	.59
May	2.65	2.35	.68	.65
June	2.35	1.75	.65	.60
July	1.75	1.65	.65	.60
August	1.65	1.52½	.65	.58
September	1.49	1.46	.77	.65
October	1.39	1.12	.81	.74
November	1.28	.95	.82½	.79½
December	.80	.76	.83½	.79
Year	2.65	.76	.83½	.54

Turpentine, Wood, Steam Distilled

On May 13, 1907, the price was 63½c.; October 18, 1911, 50c.; 1913, 30@35c.; 1920, June, $2.30.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.60	$1.60	$0.71	$0.69
February	1.60	1.60	.61	.53
March	1.60	1.60	.55	.50
April	1.60	1.60	.55	.52
May	Nominal		.64	.55
June	2.30	1.72	.64	.59
July	1.72	1.62	.64¾	.55
August	1.62	1.50	.61	.53½
September	1.45	1.43	.74	.61
October	1.34	1.12	.77	.71
November	1.10	.89	.78	.78
December	.86	.70	.78	.78
Year	2.30	.70	.78	.50

Turpentine, Wood, Destructive Distilled

On May 13, 1907, the price was 63½c.; October 18, 1911, 45c.; 1913, 25@30c.; 1919, November, $1.60.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.59	$1.59	$0.69	$0.68
February	1.59	1.59	.60	.51
March	1.59	1.59	.55	.50
April	1.59	1.59	.52	.50
May	Nominal		.62	.52
June	Nominal		.62	.58
July	1.60	1.50	.61¾	.52½
August	1.50	1.48	.55	.52½
September	1.42	1.40	.78	.55
October	1.29	1.02	.75	.69
November	1.10	.90	.75	.75
December	.78	.71	.75	.75
Year	1.60	.71	.78	.50

CHEMICALS

Alum, Lump Ammonia

On October 18, 1871, the price was $2.15 per 100 pounds; 1881, $2.15; 1891, $1.50; 1901, $1.75; 1911, $1.75; 1913, $1.75; 1918, September, $8.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.00	$4.00	$4.50	$4.25
February	4.00	4.00	4.25	4.25
March	4.00	4.00	4.25	4.00
April	4.00	4.00	4.00	4.00
May	4.50	4.00	3.75	3.50
June	4.50	4.50	3.50	3.50
July	5.00	4.50	3.50	3.50
August	5.00	5.00	3.50	3.50
September	5.00	5.00	3.50	3.50
October	5.00	5.00	3.50	3.50
November	5.00	4.90	3.75	3.75
December	4.75	4.50	3.75	3.75
Year	5.00	4.00	4.50	3.50

Alumina Sulphate, Commercial

On August 20, 1894, the price was $1.25 per 100 pounds; 1901, $1.35; 1911, 90c.; 1913, 90c.; 1917, November, $3.50.

	Per pound		Per 100 lbs.	
	1920.		1921.	
	H.	L.	H.	L.
January	$0.016	$0.016	$2.50	$2.25
February	.016	.016	2.50	2.50
March	.016	.014	2.25	2.25
April	.02	.018	2.25	2.25
May	.02	.02	2.25	2.25
June	.02¼	.02	2.25	2.25
July	.03½	.02½	2.25	2.00
August	.04½	.02¾	2.00	1.60
September	.02¾	.02¾	1.60	1.60
October	.02¾	.02¾	1.60	1.60
November	.02¾	.02½	1.60	1.60
December	.02½	.02½	1.60	1.60
Year	.04½	.016	2.50	1.60

Alumina Sulphate, Iron Free

On August 20 1894, the price was $1.75 per 100 pounds; 1901, $1.75; 1911, $1.75; 1913, $1.25; 1918, October, $4.50.

	Per pound		Per 100 lbs.	
	1920.		1921.	
	H.	L.	H.	L.
January	$0.02¾	$0.02¾	$3.50	$3.50
February	.02¾	.02¾	3.50	3.50
March	.02¾	.02¾	3.00	3.00
April	.03	.03	3.00	3.00
May	.03	.03	3.00	3.00
June	.03¾	.03¼	3.00	3.00
July	.04¾	.03¼	3.00	2.75
August	.07	.06½	2.75	2.50
September	.05½	.05½	2.50	2.50
October	.05	.04½	2.50	2.50
November	.05	.04½	2.50	2.50
December	.03¾	.03½	2.50	2.50
Year	.07	.02¾	3.50	2.50

Ammonia Aqua, 26 Degrees

On October 18, 1871, the price was 10¼@11c. per pound; 1881, 9½c.; 1891, 8¼c.; 1901, 5½c.; 1911, 4¾c.; 1913, 4¾c.; 1918, May, 30c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.08¾	$0.08¾	$0.08	$0.07½
February	.08¾	.08¾	.07½	.07½
March	.08¾	.08¾	.07½	.07½
April	.08¾	.08¾	.07½	.07½
May	.08¾	.08¾	.07½	.07½
June	.08¾	.08¾	.07½	.07½
July	.08¾	.08¾	.07½	.07½
August	.09	.08¾	.07½	.07½
September	.09	.09	.07½	.07½
October	.09	.09	.07½	.07½
November	.09	.09	.07½	.07½
December	.08¾	.07½	.07½	.07½
Year	.09	.07½	.08	.07½

Ammoniac, Sal, Lump

On October 18, 1871, the price was 10@10¾c. per pound; 1881, 11@12c.; 1891, 8¼@8½c.; 1901, 5⅞@6c.; 1911, 5¾@6½c.; 1917, July, 22c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.25	$0.17	$0.16½
February	.25	.25	.16	.16
March	.25	.25	.17	.16
April	.25	.25	.17	.16
May	.25	.24	.17	.15
June	.24	.24	.17	.17
July	.24	.23	.17	.17
August	.23	.23	.17	.17
September	.23	.22½	.18	.17
October	.22½	.22½	.16	.15
November	.21	.21	.15	.15
December	.19	.16½	.15	.15
Year	.25	.16½	.18	.15

Antimony, Needle

On October 18, 1871, the price was 11¼c. per pound; 1881, 10⅝c.; 1891, 8½c.; 1901, 7⅝c.; 1911, 5½c.; 1913, 4½c.; 1917, January, 20c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11	$0.10	$0.07	$0.06
February	.13	.11	.06	.06
March	.13	.11	.06	.06
April	.13	.13	.06	.06
May	.13	.13	.06	.06
June	.13	.13	.05½	.05
July	.13	.13	.05	.05
August	.13	.12	.05	.05
September	.12	.12	.05	.05
October	.12	.09¼	.05	.05
November	.09¼	.08½	.04½	.04½
December	.07	.06	.04½	.04½
Year	.13	.06	.07	.04½

Argols, Crude, 30 Per Cent.

On October 18, 1871, the price was 6c. per pound; 1881, 4½c.; 1891, 2¾c.; 1901, 2¼c.; 1913, 3c.; 1915, January, 18c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.10	$0.10	$0.10	$0.10
February	.10	.10	.10	.10
March	.10½	.10	.10	.10
April	.10½	.10½	.10	.10
May	.10½	.10½	.10	.10
June	.10½	.10½	.10	.10
July	.10½	.10½	.10	.10
August	.10½	.10½	.10	.10
September	.10½	.10½	.10	.10
October	.10½	.10½	.10	.10
November	.10½	.10	.10	.10
December	.10	.10	.10	.10
Year	.10½	.10	.10	.10

Arsenic, Red

On October 18, 1871, the price was 5½c. per pound; 1881, 5¾c.; 1891, 5c.; 1901, 7c.; 1911, 6¼c.; 1913, 5¾c.; 1916, December, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.22	$0.22	$0.14	$0.14
February	.20	.20	.14	.14
March	.20	.20	.14	.14
April	.20	.20	.14	.12
May	.20	.20	.12	.12
June	.20	.20	.12	.12
July	.20	.20	.12	.12
August	.20	.18	.12	.11
September	.16½	.16	.11	.11
October	.16	.15	.11	.11
November	.14	.14	.11	.11
December	.14	.14	.11	.11
Year	.22	.14	.14	.11

Arsenic, White

On October 18, 1871, the price was 17⅝c. per pound; 1881, 2¾@3½c.; 1891, 2⅞@3⅝c.; 1901, 3⅜@3⅞c.; 1911, 2¼@2⅝c.; 1913, 3½c.; 1917, May, 20c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11	$0.10½	$0.10¼	$0.09¾
February	.11½	.11	.09	.09
March	.14½	.12½	.08¾	.08
April	.14½	.13½	.08	.07½
May	.13½	.13	.07½	.07½
June	.15½	.13	.07	.06½
July	.16¾	.15½	.06½	.06½
August	.15	.13¾	.06½	.06
September	.14½	.14½	.06½	.06
October	.13	.13	.06	.05½
November	.13	.12	.06	.05½
December	.12	.10½	.06	.05½
Year	.16¼	.10½	.10¼	.05½

Barium Chloride, Off Color

On August 20, 1906, the price was $33.50 per ton; October 18, 1911, $31.50; 1913, $33; 1916, February, $140.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$80.00	$80.00	$75.00	$60.00
February	100.00	80.00	60.00	60.00
March	140.00	140.00	60.00	60.00
April	160.00	140.00	60.00	50.00
May	160.00	160.00	55.00	50.00
June	160.00	160.00	58.00	58.00
July	160.00	140.00	58.00	58.00
August	140.00	130.00	58.00	58.00
September	130.00	120.00	50.00	43.00
October	120.00	120.00	55.00	43.00
November	100.00	90.00	55.00	50.00
December	80.00	75.00	55.00	50.00
Year	160.00	75.00	75.00	43.00

Bleaching Powder

On October 18, 1871, the price was $3.50 per 100 pounds; 1881, $1.07; 1891, $2.25; 1901, $1.75; 1911, $1.50; 1913, $1.25; 1916, January, $14.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.60	$2.50	$2.60	$2.50
February	3.25	2.50	2.75	2.50
March	4.00	3.50	2.50	2.35
April	4.00	4.00	2.50	2.50
May	6.50	4.00	2.50	2.50
June	7.50	6.50	2.15	2.15
July	6.50	6.25	2.00	2.00
August	7.25	6.25	2.25	2.00
September	8.00	7.25	2.25	2.25
October	7.50	6.00	2.25	2.25
November	6.00	3.90	2.25	2.10
December	3.00	2.50	2.20	2.10
Year	8.00	2.50	2.75	2.00

H. Kohnstamm & Co.

83-93 PARK PLACE
NEW YORK

ESTABLISHED 1851

11-13 E. ILLINOIS ST.
CHICAGO

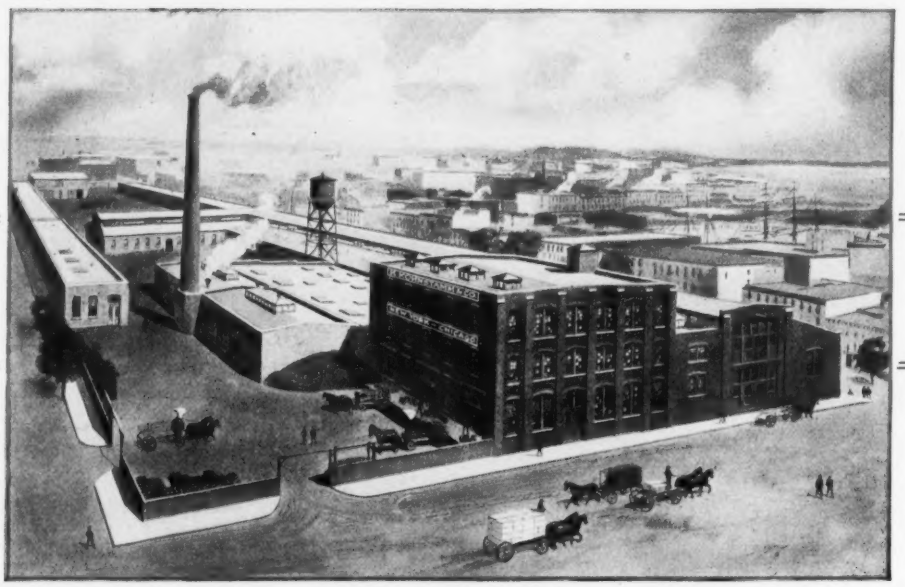
SEVENTY YEARS' EXPERIENCE BEHIND OUR PRODUCTS

MANUFACTURERS OF

Lakes and Fine Colors

Stearate of Zinc

Alumina Oleate



Factory—Columbia, Bay, Creamer & Hicks Streets, Brooklyn, N. Y.

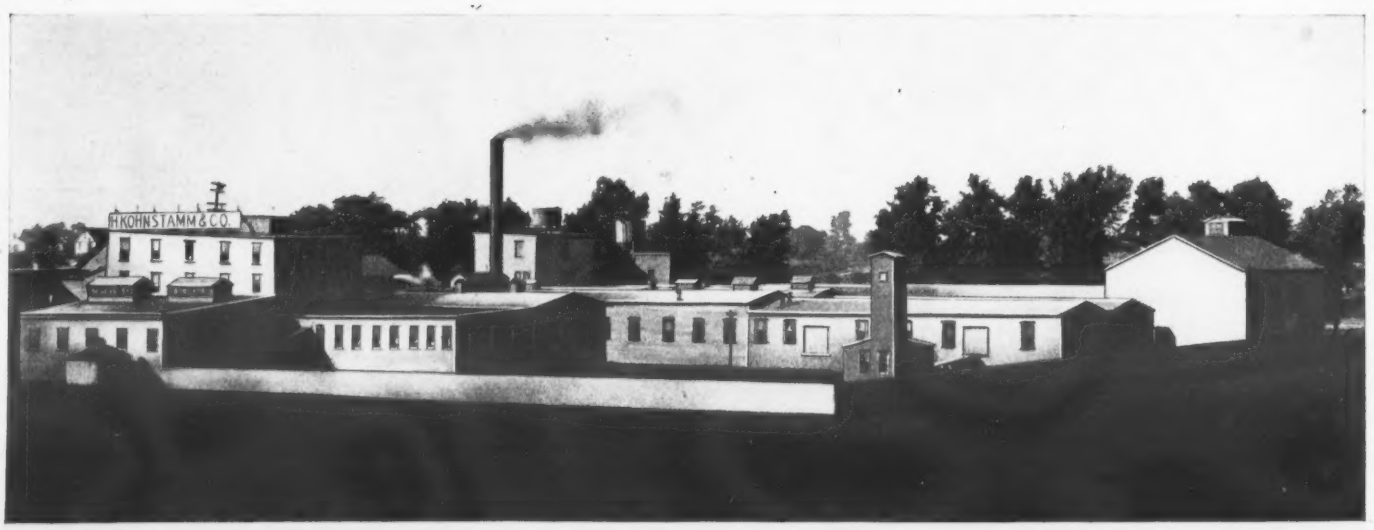
Soluble Prussian Chinese and Milori Blues

C. P. Chrome Yellows — Alumina Hydrate

Stearate of Alumina — No. 40 Carmine

CERTIFIED AND VEGETABLE FOOD COLORS

GENUINE FRUIT AND OTHER FLAVORING EXTRACTS



Factory—Cleveland and Lois Avenues, Camden, New Jersey

Brimstone

On October 18, 1871, the price was $33.50 per ton; 1881, $31@32; 1891, $20@30; 1901, $24@28; 1911, $22@22.50; 1913, $22; 1917, February, $45.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$28.00	$28.00	$20.00	$20.00
February	28.00	28.00	20.00	20.00
March	28.00	28.00	20.00	20.00
April	28.00	28.00	16.00	16.00
May	28.00	28.00	16.00	15.00
June	28.00	20.00	15.00	15.00
July	20.00	20.00	15.00	15.00
August	20.00	20.00	15.00	15.00
September	20.00	20.00	15.00	15.00
October	20.00	20.00	15.00	15.00
November	20.00	20.00	15.00	15.00
December	20.00	20.00	15.00	15.00
Year	28.00	20.00	20.00	15.00

Calcium Carbide

In 1900, when first introduced on a large scale, the price was $5.50 per 100 pounds; 1918, July, $16.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.00	$5.00	$4.50	$4.50
February	5.00	5.00	4.50	4.50
March	5.00	5.00	4.50	4.50
April	5.50	5.00	4.50	4.50
May	5.50	5.00	4.50	4.50
June	5.50	4.50	4.50	4.50
July	4.50	4.50	4.50	4.50
August	4.50	4.50	4.50	4.50
September	4.50	4.50	4.50	4.50
October	4.50	4.50	4.50	4.50
November	5.75	4.50	4.50	4.50
December	4.50	4.50	4.50	4.50
Year	5.75	4.50	4.50	4.50

Carbon Tetrachloride

In January, 1911, the price was 7½c. per pound; October 18, 1913, 7½c.; 1918, October, 45c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11	$0.11	$0.12	$0.10½
February	.11	.10	.10½	.10½
March	.11	.10½	.12	.10
April	.11	.11	.10	.10
May	.12	.10½	.10½	.10½
June	.10½	.10½	.10½	.10½
July	.11½	.10½	.10½	.10
August	.14	.13	.10	.10
September	.13½	.13	.10	.10
October	.13½	.13½	.10½	.10
November	.12½	.10½	.10½	.10½
December	.10½	.10½	.10½	.10½
Year	.14	.10½	.12	.10

Chlorine Gas, Liquid

In 1907, when it was first introduced, the price was 25c. per pound; October 18, 1911, 15c.; 1918 June, 22c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.08	$0.08	$0.08	$0.08
February	.08	.08	.08	.08
March	.08	.08	.08	.08
April	.10	.08	.08	.08
May	.10	.09	.08	.08
June	.09	.09	.08	.08
July	.09	.09	.08	.08
August	.10	.09	.08	.08
September	.09½	.09½	.08	.08
October	.09½	.09½	.08	.08
November	.09½	.09½	.08	.08
December	.09	.08½	.08	.08
Year	.10	.08	.08	.08

Copper Sulphate (Blue Vitriol), 99 Per Cent.

On October 18, 1871, the price was $10.50 per 100 pounds; 1881, $6.50@7; 1891, $3.50@3.75; 1901, $4.75@4.90; 1911, $4.50@4.75; 1913, $5; 1916, January, $23.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$8.25	$8.25	$6.00	$6.00
February	8.25	8.25	6.00	6.00
March	8.25	8.25	5.25	5.25
April	8.25	8.00	5.25	5.00
May	8.25	8.00	5.25	5.00
June	8.00	8.00	5.75	5.25
July	8.25	8.00	5.75	5.75
August	8.25	8.25	5.75	5.75
September	8.25	8.25	5.50	5.35
October	8.00	7.25	5.25	5.25
November	7.25	6.50	5.25	5.25
December	6.50	6.00	5.65	5.65
Year	8.25	6.00	6.00	5.00

Copperas, Green

On October 18, 1871, the price was $8.50 per 100 pounds; 1881, 60c.; 1891, 80c.; 1901, 30c.; 1911, 60c.; 1913, 70c.; 1918, December, $2.50.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.20	$1.20	$1.40	$1.00
February	1.20	1.20	1.25	1.25
March	1.50	1.20	1.25	1.00
April	2.00	1.50	1.00	.75
May	2.75	2.00	.75	.75
June	4.00	2.75	.75	.75
July	3.50	2.20	.75	.75
August	2.20	2.20	.75	.75
September	2.20	2.00	.75	.75
October	2.00	2.00	.75	.75
November	1.50	1.50	1.00	1.00
December	1.40	1.40	1.00	.75
Year	4.00	1.20	1.40	.75

Fluorspar, Washed Gravel, 85 Per Cent.

On December 16, 1918, the price was $90 per ton.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$30.00	$30.00		Nominal
February	30.00	30.00	$22.50	$22.50
March	30.00	30.00	22.50	22.50
April	30.00	30.00	22.50	22.50
May	30.00	25.00	22.50	22.50
June	25.00	25.00	22.50	20.00
July	25.00	25.00	22.50	20.00
August	25.00	25.00	20.00	20.00
September	25.00	25.00	20.00	20.00
October		Nominal	20.00	20.00
November		Nominal	20.00	20.00
December	30.00	30.00	20.00	20.00
Year	30.00	25.00	22.50	20.00

Glauber's Salt

On October 18, 1871, the price was $2.10 per 100 pounds; 1881, $1.10; 1891, $1 15; 1901, 90c.; 1911, 75c.; 1913, 60c.; 1918, July, $3.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.15	$1.15	$1.75	$1.75
February	1.15	1.15	1.75	1.75
March	1.15	1.15	1.75	1.75
April	1.75	1.60	1.75	1.75
May	2.20	1.70	1.75	1.75
June	2.30	2.20	1.75	1.50
July	2.65	2.30	1.50	1.50
August	2.50	2.50	1.50	1.50
September	2.50	2.50	1.75	1.50
October	2.10	2.10	1.75	1.75
November	2.10	2.00	1.75	1.15
December	2.00	2.00	1.15	1.00
Year	2.65	1.15	1.75	1.00

Lead, Acetate, Brown, Broken

On October 18, 1871, the price was 10¾c. per pound; 1881, 8½c.; 1891, 6¼c.; 1901, 6c.; 1911, 7¾c.; 1913, 7¾c.; 1918, March, 17c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.12⅝	$0.12⅝	$0.13½	$0.13½
February	.12⅝	.12⅝	.13½	.13½
March	.12⅝	.12⅝	.13½	.12⅝
April	.13⅝	.13⅝	.11⅝	.11⅝
May	.13⅝	.13⅝	.11⅝	.11⅝
June	.13⅝	.13⅝	.11⅝	.10¾
July	.14⅝	.13⅝	.10¾	.10¾
August	.14⅝	.14⅝	.10¾	.10⅝
September	.14⅝	.14⅝	.10⅝	.10⅝
October	.14⅝	.14⅝	.10⅝	.10⅝
November	.14⅝	.14⅝	.10⅝	.10⅝
December	.14½	.13½	.10⅝	.10⅝
Year	.14⅝	.12⅝	.13½	.10⅝

Lime, Acetate

In 1871 the price was $6.35 per 100 pounds; 1881, $3.60; 1891, $1.90; 1901, $1.55; 1913, $2; 1916, January, $7.05.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.00	$2.00	$2.00	$1.95
February	2.00	2.00	1.95	1.95
March	2.00	2.00	1.95	1.50
April	3.50	3.25	2.00	1.75
May	3.50	3.50	1.75	1.75
June	3.50	3.50	2.00	2.00
July	3.50	3.50	2.00	2.00
August	3.50	3.50	2.00	2.00
September	3.50	3.50	2.00	1.75
October	3.50	3.50	1.75	1.75
November	2.50	2.50	1.75	1.75
December	2.00	2.00	1.75	1.75
Year	3.50	2.00	2.00	1.50

Nickel Salts, Single

On September 11, 1891, the price was 15c. per pound; October 18, 1901, 10½c.; 1911, 13c.; 1913, 12c.; 1918, September, 17c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.16	$0.15	$0.14	$0.13½
February	.16	.16	.14	.14
March	.16	.16	.14	.14
April	.16	.16	.14	.14
May	.16	.16	.14	.14
June	.16	.16	.14	.12½
July	.16	.16	.12½	.12½
August	.16	.16	.12½	.12
September	.16	.16	.12	.12
October	.15	.13	.12	.12
November	.14	.13	.12	.12
December	.14	.13	.12	.12
Year	.16	.13	.14	.12

Phosphorus, Red

On October 18, 1871, the price was $1.15 per pound; 1881, 58c.; 1891, 65c.; 1901, 60c.; 1911, 50c.; 1913, 50c.; 1918, January, $1.70.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.65	$0.60	$0.50	$0.35
February	.60	.60	.50	.50
March	.60	.60	.50	.50
April	.60	.50	.50	.50
May	.50	.50	.50	.45
June	.50	.50	.45	.45
July	.50	.50	.45	.45
August	.50	.50	.40	.35
September	.50	.50	.35	.35
October	.50	.50	.35	.35
November	.50	.40	.50	.35
December	.40	.35	.50	.45
Year	.65	.35	.50	.35

Phosphorus, Yellow

On October 18, 1871, the price was $1.10 per pound; 1881, 55c.; 1891, 60c.; 1901, 45c.; 1911, 45c.; 1913, 45c.; 1918, January, $2.10.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.35	$0.35	$0.30	$0.30
February	.35	.35	.30	.30
March	.35	.35	.30	.30
April	.35	.35	.30	.30
May	.35	.35	.30	.30
June	.35	.35	.35	.35
July	.35	.35	.35	.35
August	.35	.35	.35	.35
September	.35	.35	.35	.35
October	.35	.35	.30	.30
November	.35	.30	.30	.30
December	.35	.30	.30	.30
Year	.35	.30	.35	.30

Potash Carbonate, Calcined, 80@85 Per Cent.

On October 18, 1871, the price was 15c. per pound; 1881, .06½c.; 1891, .05c.; 1901, .04¼c.; 1911, .03½c.; 1913, .03¼c.; 1917, November, .70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.24	$0.24	$0.13	$0.11
February	.24	.21	.08	.08
March	.21	.21	.08	.07½
April	.21	.19	.06¾	.06
May	.19	.18½	.06¾	.06
June	.18½	.17	.06	.05½
July	.17	.17	.05½	.05
August	.20	.17	.05	.05
September	.20	.18½	.05	.05
October	.20	.19	.05	.04½
November	.19	.18	.04½	.04½
December	.13	.13	.04½	.04½
Year	.24	.13	.13	.04½

Potash, Caustic, 88@92 Per Cent.

On October 18, 1871, the price was .07¼c. per pound; 1881, .06c.; 1891, .06¾c.; 1901, 06c.; 1911, .03¾c.; 1913, .04c.; 1916, February, $1.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.30	$0.28	$0.14	$0.10
February	.28	.28	.10	.10
March	.31	.28	.10	.08
April	.32	.30	.08	.06
May	.32	.30	.08	.06
June	.28	.28	.05½	.05
July	.28	.28	.04¾	.04¾
August	.28	.28	.04¼	.04¼
September	.28	.28	.05¾	.04¼
October	.28	.28	.06	.05
November	.28	.17	.05¾	.05½
December	.16	.14	.06	.05¼
Year	.32	.14	.14	.04¼

Potash, Caustic, 70@75 Per Cent.

On October 18, 1871, the price was .07c. per pound; 1881, .05¼c.; 1891, .06½c.; 1901, .05¾c.; 1911, .05½c.; 1913, .03½c.; 1917, November, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.23	$9.23	$0.14	$0.14
February	.23	.23	.14	.12
March	.25	.23	.12	.10
April	.25	.23	.10	.10
May	.25	.25	.10	.10
June	.23	.22¾	.10	.10
July	.22¾	.22¾	.10	.10
August	.22¾	.22¾	.10	.10
September	.22¾	.22¾	.10	.10
October	.22¾	.22¾	.10	.10
November	.17	.17	.10	.10
December	.16	.14	.10	.10
Year	.25	.14	.14	.10

Potash, Chlorate

On October 18, 1871, the price was 55c. per pound; 1881, 15⅝c.; 1891, 10¾c.; 1901, 8¼c.; 1911, 8¼c.; 1913, 8¾c.; 1916, March, 75c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.15	$0.15	$0.11	$0.09
February	.15	.15	.08	.08
March	.15	.15	.08	.08
April	.16	.15	.08	.07¾
May	.16	.15	.07¾	.07¾
June	.15	.15	.08	.06½
July	.16	.15	.07½	.07½
August	.17	.17	.07½	.07
September	.18	.17	.07¾	.06½
October	.18	.18	.06½	.06
November	.18	.14	.06	.05½
December	.13	.11	.05½	.05½
Year	.18	.11	.11	.05½

Potash, Permanganate, Technical

In 1901 the price was 9@11c.; October 18, 1911, 8¾c.; 1913, 9¾c.; 1918, September, $2.25.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.58	$0.58	$0.55	$0.48
February	.65	.58	.48	.48
March	.65	.65	.45	.45
April	.70	.65	.35	.35
May	.70	.70	.35	.35
June	.70	.70	.35	.32
July	.70	.70	.30	.27
August	.70	.70	.27	.27
September	.70	.70	.27	.22
October	.70	.70	.22	.19
November	.65	.62	.19	.18
December	.60	.55	.18	.12
Year	.70	.55	.55	.12

Salt Cake, Ground, Barrels

In October, 1881, the price was $18 per ton; October 18, 1891, $15; 1901, $15; 1911, $12; 1913, $11.50; 1920, August, $80.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$17.00	$17.00	$28.00	$26.00
February	21.00	17.00	26.00	25.00
March	21.00	21.00	25.00	25.00
April	30.00	21.00	25.00	20.00
May	35.00	30.00	20.00	20.00
June	40.00	35.00	20.00	17.00
July	40.00	40.00	17.00	17.00
August	80.00	40.00	17.00	17.00
September	50.00	48.00	17.00	17.00
October	50.00	50.00	20.00	17.00
November	55.00	30.00	20.00	18.00
December	33.00	28.00	18.00	18.00
Year	80.00	17.00	28.00	17.00

Saltpeter, Crystals

On September 16, 1879, the price was 6c. per pound; October 18, 1881, 7c.; 1891, 6¾c.; 1901, 4¼c.; 1911, 4¾c.; 1913, 6½c.; 1916, January, 38c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.14¾	$0.14¾	$0.12¾	$0.12¾
February	.14¾	.14¾	.10⅝	.10⅝
March	.14¾	.14¾	.10⅝	.10⅝
April	.14¾	.14¾	.10⅝	.10⅝
May	.14¾	.14¾	.10⅝	.10⅝
June	.14¾	.14¾	.10⅝	.10⅝
July	.15¼	.14¾	.10⅝	.10⅝
August	.14¾	.14¾	.10⅝	.10⅝
September	.14¾	.14¾	.10⅝	.10⅝
October	.14¾	.12¾	.10⅝	.10⅝
November	.12¾	.12¾	.08⅝	.08⅝
December	.12¾	.12¾	.08⅝	.08⅝
Year	.15¼	.12¾	.12¾	.08⅝

Soda Ash, Light, 58 Per Cent.

On October 18, 1871, the price was $2.70 per 100 pounds; 1881, $1.50; 1891, $1.60; 1901, 85c.; 1911, 80c.; 1913, 85c.; 1916, February, $4.50.

	In bags, per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.20	$1.90	$2.15	$1.95
February	2.50	2.20	2.00	1.95
March	3.50	2.50	1.95	1.90
April	4.50	3.50	1.90	1.85
May	4.50	3.40	1.90	1.85
June	3.60	3.35	1.90	1.90
July	3.50	3.20	1.90	1.90
August	3.25	3.10	2.10	2.00
September	2.85	2.75	2.10	2.10
October	2.45	2.65	2.10	2.05
November	2.65	1.90	2.10	1.90
December	2.00	1.80	1.90	1.70
Year	4.50	1.80	2.15	1.70

Soda, Bicarbonate

On October 18, 1871, the price was $4.50 per 100 pounds; 1881, $3.70; 1891, $3.25; 1901, 95c.; 1911, $2.75; 1913, $1; 1918, October, $4.50.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.40	$2.40	$2.40	$1.75
February	2.40	2.40	2.25	1.75
March	2.45	2.40	2.35	2.35
April	2.45	2.45	2.35	2.25
May	2.45	2.45	2.25	2.25
June	2.45	2.45	2.25	2.25
July	2.45	2.45	2.25	2.25
August	2.45	2.45	2.25	2.25
September	2.90	2.90	2.00	2.00
October	2.90	2.90	2.00	2.00
November	2.90	2.75	2.00	2.00
December	2.30	2.25	2.30	2.00
Year	2.90	2.25	2.40	1.75

Soda, Caustic, 76 Per Cent. Solid

On October 18, 1871 the price was $4.88 per 100 pounds; 1881, $3.75; 1891, $1.55; 1901, $1.95; 1911, $1.80; 1913, $1.75; 1917, September, $10.70.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.50	$4.50	$3.90	$3.85
February	5.00	4.50	3.90	3.70
March	6.75	5.00	3.90	3.60
April	7.00	6.75	3.70	3.60
May	7.00	6.25	3.75	3.60
June	6.50	6.25	4.00	4.00
July	6.50	5.50	4.10	4.00
August	6.00	5.25	3.90	3.80
September	4.80	4.00	4.00	3.90
October	5.25	3.85	4.10	4.00
November	4.25	3.75	4.00	3.85
December	3.75	3.50	3.85	3.75
Year	7.00	3.50	4.20	3.60

Soda, Chlorate

On October 18, 1871, the price was 40c. per pound; 1881, 15½c.; 1891, 10½c.; 1901, 7¾c.; 1911, 8c.; 1913, 8¼c.; 1916, February, 35c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.10	$0.10	$0.10	$0.10
February	.10	.10	.10	.10
March	.10	.10	.10	.10
April	.10	.10	.08½	.08½
May	.11	.10	.08½	.08½
June	.10½	.10	.07½	.07½
July	.10	.10	.07½	.07½
August	.10	.10	.07½	.07½
September	.10	.10	.07½	.07½
October	.10	.10	.07½	.07½
November	.10	.10	.07½	.07½
December	.10	.10	.07½	.06½
Year	.11	.10	.10	.06½

Soda, Cyanide

On October 18, 1913, the price was 25c.; 1917, January, $2.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28	$0.28	$0.22	$0.20
February	.30	.25	.20	.19
March	.25	.25	.20	.20
April	.25	.25	.20	.20
May	.25	.25	.20	.20
June	.30	.25	.20	.20
July	.30	.27	.20	.20
August	.55	.27	.20	.20
September	.55	.35	.20	.20
October	.32	.30	.27	.20
November	.28	.23	.27	.27
December	.22	.20	.27	.25
Year	.55	.20	.27	.19

Soda, Nitrite, 96 and 98 Per Cent.

Not quoted prior to August, 1917, when price was 44c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.15½	$0.14	$0.00¾	$0.06
February	.14	.14	.06	.05¾
March	.34	.16	.05¾	.05¾
April	.32	.22	.06	.06
May	.26	.19	.06	.06
June	.19	.15¾	.10	.07½
July	.18½	.15	.10	.07
August	.16	.14	.07¼	.07
September	.13½	.13	.07	.06¾
October	.13	.12	.06¾	.06½
November	.09¾	.07	.06¾	.06¾
December	.07	.06½	.06¾	.06
Year	.34	.06½	.10	.05¾

Soda, Sal

On October 18, 1871, the price was $1 per 100 pounds; 1881, $1.10; 1891, $1.05; 1901, 60c.; 1911, 65c.; 1913, 60c.; 1918, November, $2.50.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.35	$1.35	$2.00	$2.00
February	1.35	1.35	2.00	1.90
March	1.60	1.35	1.90	1.90
April	1.60	1.60	1.90	1.65
May	1.60	1.60	1.65	1.65
June	1.85	1.60	1.65	1.65
July	1.85	1.85	1.65	1.65
August	2.00	1.85	1.65	1.65
September	2.00	2.00	1.65	1.65
October	2.00	2.00	1.90	1.65
November	2.00	2.00	1.90	1.60
December	2.00	2.00	1.60	1.60
Year	2.00	1.35	2.00	1.60

Soda, Silicate, 60 Degrees

On January 14, 1901, the price was $2 per 100 pounds; October 18, 1911, $2; 1913, $2; 1918, October, $8.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.75	$2.75	$2.75	$2.75
February	3.00	2.75	2.75	2.75
March	3.00	2.90	2.75	2.75
April	2.90	2.90	2.75	2.75
May	2.90	2.80	2.75	2.75
June	2.80	2.80	2.75	2.75
July	2.85	2.80	2.75	2.75
August	2.85	2.85	2.75	2.75
September	2.85	2.85	2.75	2.75
October	2.85	2.85	2.75	2.75
November	2.85	2.75	2.75	2.75
December	2.75	2.75	2.75	2.75
Year	3.00	2.75	2.75	2.75

Soda Silicate, 40 Degrees

On January 14, 1901, the price was $1 per 100 pounds; October 18, 1911, 65c.; 1913, 60c.; 1918, October, $3.50.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.12½	$1.12½	$1.25	$1.15
February	1.75	1.12½	1.15	1.15
March	1.75	1.10	1.15	1.15
April	1.10	1.10	1.15	1.15
May	1.25	1.20	1.15	1.10
June	1.20	1.20	1.25	1.10
July	1.20	1.20	1.00	1.00
August	1.20	1.20	1.00	1.00
September	1.20	1.20	1.00	1.00
October	1.15	1.15	1.00	1.00
November	1.15	1.15	1.00	1.00
December	1.85	1.25	1.00	1.00
Year	1.85	1.10	1.25	1.00

Soda, Sulphide, 60 Per Cent.

On September 21, 1911, the price was $2.50 per 100 pounds; 1913, $2.50; 1918, November, $12.

	Per hundredweight			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.00	$5.00	$6.75	$5.50
February	5.00	5.00	5.50	5.00
March	5.00	5.00	5.25	5.00
April	11.00	5.00	5.50	4.75
May	10.00	7.50	4.75	4.75
June	9.50	9.25	4.75	4.75
July	10.25	10.00	5.50	5.50
August	10.00	10.00	5.00	5.00
September	10.00	10.00	4.75	4.40
October	8.00	8.00	4.75	4.50
November	8.00	8.00	5.00	4.50
December	6.75	6.00	4.50	4.25
Year	11.00	5.00	6.75	4.25

Soda, Sulphide, 30 Per Cent.

On September 21, 1911, the price was $1.50 per 100 pounds; 1913, $1.50; 1918, October, $7.

	Per hundredweight			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.75	$2.75	$3.50	$3.00
February	2.75	2.75	3.00	3.00
March	2.75	2.75	3.00	2.75
April	6.50	2.75	2.75	2.75
May	6.00	4.50	2.75	2.75
June	5.50	5.50	3.50	3.00
July	5.50	5.00	3.50	3.50
August	5.00	4.00	3.50	3.50
September	5.00	5.00	3.50	3.00
October	5.00	5.00	3.50	3.00
November	5.00	5.00	3.50	3.00
December	4.00	3.50	3.00	3.00
Year	6.50	2.75	3.50	2.75

Soda, Sulphite

On October 18, 1871, the price was 20c. per pound; 1891, 20c.; 1901, 5¼c.; 1911, 2¼c.; 1913, 2¼c.; 1916, January, 6c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.03½	$0.03	$0.04	$0.04
February	.03½	.03½	.04	.04
March	.03½	.03½	.04	.04
April	.03½	.03½	.03¾	.03¾
May	.03½	.03½	.03¾	.03¾
June	.03½	.03½	.03¾	.03¾
July	.03¾	.03½	.03¾	.03¾
August	.03¾	.03¾	.03¾	.03¾
September	.03¾	.03¾	.03¾	.03¾
October	.03¾	.03¾	.03¾	.03¾
November	.03¾	.03½	.03¾	.03¾
December	.04	.03½	.03¾	.03¾
Year	.04	.03	.04	.03¾

Not Allied with, or Controlled by, any other Company — Established February 1, 1872, by S. P. & G. D. Wetherill, Jr.

The Westmoreland Chemical & Color Company

First Hands in Dry Paints and Minerals used in the Manufactures and Arts

Original Manufacturers in the United States of

BRIGHT OXIDES OF IRON AND INDIAN REDS

S. E. Cor. 22nd & Westmoreland Sts.
PHILADELPHIA

Especially Prepared for the
Rouge, Paint, Paper, Rubber and Linoleum Trades

150 Nassau Street
NEW YORK

REPRESENTATIVES

Boston: John H. Driscoll, 65 Broad Street

Chicago: Geo. B. Cary & Son, 208 S. La Salle Street

San Francisco: C. L. Duncan Co. 565 Folsom Street

Detroit: W. S. Farlow, 308 Scherer Building

Montreal: J. I. Frank Anthes 591 St. Catherine St., West

SOME BITS OF HISTORY

On February 1, 1872, two young men in the City of Philadelphia formed a partnership which was destined to have a marked effect on the Dry Paint Industry of the United States.

These two young men were Samuel Price Wetherill, a descendant of the founder of the White Lead corroding firm of Wetherill & Brother; and George D. Wetherill, Jr., a grandson of George D. Wetherill, then the head of George D. Wetherill & Co. Both these last named concerns under their original titles come down to our times.

The primary object, as set forth in the partnership papers of the newly organized firm, was to act as Importers and Commission Merchants. In fact, at that time most of the paints and colors used in the industry were imported, and among them were all of the Venetian Reds and Iron Oxides. The venture was so successful that, in February, 1874, they opened a branch office in New York, at 13 Platt Street.

S. P. and G. D. Wetherill, Jr., introduced to the trade, first, the Sulphate of Barium, ground by George G. Goodell at Marion, Wythe Co., Va., and, later on, the product of George W. Bright of Fullens and Bristol, Tenn. The last named gentleman became a familiar figure in the paint business, and for a long time was the leading producer of Dry Ground Barytes in the United States.

Shortly after the organization of the firm they started the Blue Mountain Paint Co., which is now known as Henry Erwin & Sons, of Bethlehem, Pa. This venture was very important, as it originated the general Metallic Paint business of the United States and continues a flourishing institution down to the present. It was, however, antedated by Lawrence Brown (later Princes) and Rocky Mountain Vermilion. The latter, a brilliant pyrites cinder, produced in Camden, N. J., but ground dry by Samuel Matlack & Bro., on Cohocksink Creek at about where Front and Laurel streets are now located in the City of Philadelphia. Some little domestic ochre was also mined in various sections of the Eastern States, the most noted being that produced at Brandon, Vermont. Domestic "Spanish" Brown was also mined near Baltimore and marketed by Wm. Davidson & Co. of that city.

George D. Wetherill (first) died in 1874 and George D. Wetherill, Jr., his grandson, was obliged to sever his connection from S. P. and G. D. Wetherill, Jr., by reason of the fact that there was no one in the old concern then whose name could carry the title. He, therefore, joined his father, Christopher Wetherill (nephew of Geo. D. Wetherill, Sr.), and his cousin George W. Earl, and thus enabled it to carry the name. It will interest the present generation to know that such a thing as a firm working under a charter was almost unthought of at that time.

S. P. Wetherill then formed a new partnership with Samuel Wetherill, a son of George D. Wetherill (first), under the name of S. P. Wetherill & Co., and this firm continued until 1883, when the S. P. Wetherill Co., Ltd., was organized under a new legislative act. On March 10, 1891, the word Limited was dropped and a regular incorporated company formed under the title, The S. P. Wetherill Company. The charter granted this corporation was amended December 31, 1910, to read, The Westmoreland Chemical & Color Company.

The present concern, therefore, has had a continuous history of 50 years.

S. P. Wetherill & Co., introduced to the world the material and name Sublimed White Lead.

It, also, in connection with George D. Wetherill, (Jr.) and Thomas B. Wright formed the original Southwark Manufacturing Co., which concern also continues down to the present as one of the leading producers of Whiting.

S. P. Wetherill also took a leading part in the forming of the Lehigh Zinc & Iron Co., now merged into the New Jersey Zinc Co.

The tariff of 1872 really marked the beginning of the development of American industries, and by reason of it the manufacturing business of S. P. & G. D. Wetherill, Jr., was inaugurated and built up. They were the first to produce Venetian and Indian Reds and Strong Oxides in the United States under the protection afforded by the then new policy of the country.

This is now the present company's principal business, but it also manufactures Domestic Metallic Browns, Ochres, Umbers, Siennas and many other allied minerals used in the manufactures and arts.

Perhaps its most valued product, certainly its most recent, is an entirely new chemical to which it has given the name Fer-Sul.

FER SUL

NAME AND TRADE MARK REGISTERED

is an essential of good sanitation and a triumph of Chemictherapy. Write for descriptive literature.

Sulphur, Commercial Flour

On October 18, 1871, the price was $3.25 per 100 pounds; 1881, $2.80; 1891, $3.10; 1901, $1.70; 1911, $2; 1913, $2; 1918, January, $3.75.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.60	$1.60	$1.60	$1.60
February	1.60	1.60	1.60	1.45
March	1.60	1.60	1.45	1.45
April	1.60	1.60	1.45	1.45
May	1.60	1.60	1.45	1.45
June	1.60	1.60	1.45	1.45
July	1.70	1.70	1.45	1.45
August	1.70	1.70	1.45	1.45
September	1.70	1.70	1.45	1.45
October	1.70	1.70	1.45	1.45
November	1.95	1.80	1.45	1.45
December	1.95	1.60	1.45	1.45
Year	1.95	1.60	1.60	1.45

Tin, Bichloride

In 1871 the price was 45c. per pound; October 18, 1881, 36½c.; 1891, 24⅝.; 1901, 11⅞c.; 1911, 11½c.; 1913, 12½c.; 1918, April, 29c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.20	$0.20	$0.11	$0.11
February	.20	.20	.10¼	.10¼
March	.20	.20	.10¼	.10¼
April	.20	.20	.09¼	.09¼
May	.20	.20	.09¼	.09¼
June	.19	.19	.09⅜	.09⅜
July	.19	.13¾	.09⅜	.09⅜
August	.13¾	.13¾	.09⅜	.09⅜
September	.13¾	.13¾	.09¾	.09¾
October	.13¾	.13¾	.09¾	.09¾
November	.13¾	.13½	.09½	.09½
December	.11	.11	.09½	.09½
Year	.20	.11	.11	.09¼

Tin, Oxide

On January 28, 1901, the price was 47c. per pound; October 18, 1911, 43c.; 1913, 44c.; 1918, May, $1.10.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.60	$0.57	$0.48	$0.45
February	.60	.60	.45	.45
March	.60	.60	.45	.40
April	.60	.60	.40	.40
May	.60	.60	.40	.40
June	.60	.60	.40	.40
July	.60	.60	.40	.38
August	.60	.55	.38	.38
September	.60	.55	.37	.37
October	.55	.55	.37	.37
November	.50	.50	.37	.37
December	.48	.48	.39	.37
Year	.60	.48	.48	.37

Zinc, Carbonate

On October 18, 1871, the price was 20c. per pound; 1881, 34c.; 1891, 27c.; 1901, 19c.; 1911, 7¼c.; 1913, 9c.; 1918, January, 20c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.18	$0.18	$0.18	$0.18
February	.18	.18	.16	.16
March	.18	.18	.16	.15
April	.18	.18	.16	.15
May	.18	.18	.15	.15
June	.18	.18	.15	.15
July	.18	.18	.15	.15
August	.18	.18	.15	.15
September	.18	.18	.15	.15
October	.18	.18	.15	.15
November	.18	.18	.15	.15
December	.18	.18	.15	.15
Year	.18	.18	.18	.15

Zinc, Chloride, Fused

On October 18, 1871, the price was 10c. per pound; 1881, 10½c.; 1891, 8¾c.; 1901, 6½c.; 1911, 4¼c.; 1913, 4½c.; 1917, May, 17c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.13	$0.13	$0.12	$0.12
February	.13	.13	.12	.11
March	.13¼	.13	.08	.08
April	.13¼	.13¼	.11	.11
May	.13¼	.13¼	.11	.11
June	.13¼	.13¼	.11	.10
July	.13¼	.13¼	.08½	.08
August	.13¼	.13¼	.08	.08
September	.13¼	.13¼	.08	.08
October	.13¼	.13¼	.08	.04¾
November	.13¼	.13¼	.05½	.05½
December	.13¼	.12	.05½	.05
Year	.13¼	.12	.12	.04¾

Zinc, Sulphate

On October 18, 1871, the price was 6c. per pound; 1881, 5¾c.; 1891, 4¼c.; 1901, 5¼c.; 1911, 2¼c.; 1913, 2½c.; 1916, December, 7½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.03¼	$0.03¼	$0.03¼	$0.03¼
February	.03¼	.03¼	.03¼	.03¼
March	.03½	.03¼	.03¼	.03¼
April	.03½	.03½	.03¼	.03¼
May	.03½	.03½	.03¼	.03¼
June	.03½	.03½	.03¼	.03¼
July	.03½	.03½	.03¼	.02¾
August	.03½	.03½	.02¾	.02¾
September	.03½	.03½	.02¾	.02¾
October	.03½	.03½	.02¾	.02¾
November	.03½	.03½	.03	.02¾
December	.03½	.03¼	.03	.03
Year	.03½	.03¼	.03¼	.02¾

ACIDS

Acetic, 28 Per Cent.

On October 18, 1871, the price was $1 per 100 pounds; 1881, $3.50; 1891, $1.50; 1901, $1.62; 1911, $1.69; 1913, $1.75; 1918, June, $12.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.75	$2.75	$2.75	$2.75
February	2.75	2.75	2.75	2.75
March	2.75	2.75	2.75	2.75
April	3.62½	3.62½	2.50	2.50
May	3.75	3.75	2.50	2.50
June	3.75	3.75	2.50	2.50
July	3.75	3.75	2.50	2.50
August	3.75	3.75	2.50	2.50
September	3.75	3.75	2.50	2.50
October	3.75	3.75	2.50	2.50
November	3.75	3.50	2.50	2.50
December	2.75	2.75	2.50	2.50
Year	3.75	2.75	2.75	2.50

Acetic, Glacial, 99 Per Cent.

On October 18, 1871, the price was $1.15 per 100 pounds; 1881, $8; 1891, $5.50; 1901, $4; 1911, $8.50; 1913, $8; 1918, May, $42.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$12.50	$12.00	$10.87	$10.87
February	12.00	12.00	9.00	9.00
March	13.75	12.00	10.00	9.00
April	15.50	15.50	9.35	8.50
May	15.95	15.95	9.50	9.35
June	15.95	15.95	11.50	11.00
July	15.95	15.95	10.00	9.00
August	15.95	15.95	10.00	9.00
September	15.95	15.95	10.00	10.00
October	15.95	15.95	10.00	10.00
November	15.95	14.50	10.00	10.00
December	13.33	13.33	10.00	10.00
Year	15.95	12.00	11.50	8.50

Battery, 66 Degree, Sulphuric

On October 18, 1871, the price was $2.25 per 100 pounds; 1881, $1.22; 1891, 85c.; 1901, $1.20; 1911, $1; 1913, $1; 1918, September, $9.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.50	$1.50	$1.75	$1.75
February	1.50	1.50	1.75	1.75
March	1.75	1.50	1.75	1.75
April	2.00	1.75	1.75	1.75
May	2.00	2.00	1.75	1.75
June	2.00	2.00	1.75	1.50
July	2.00	1.75	1.50	1.50
August	1.75	1.75	1.50	1.50
September	1.75	1.75	1.50	1.50
October	1.75	1.75	1.50	1.50
November	1.75	1.75	1.50	1.50
December	1.75	1.75	1.50	1.50
Year	2.00	1.50	1.75	1.50

Boric

On October 18, 1871, the price was 75c. per pound; 1881, 15c.; 1891, 13½c.; 1901, 10¾c.; 1911, 7c.; 1913, 7c.; 1919, December, 14½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.14¼	$0.14¼	$0.15¼	$0.14¾
February	.14½	.14½	.15¼	.14½
March	.14¼	.14¼	.13	.13
April	.14¼	.14¼	.13	.13
May	.14¼	.14¼	.13	.13
June	.14¼	.14¼	.13	.13
July	.14¼	.14¼	.13	.13
August	.14¼	.14¼	.13	.12½
September	.14¼	.14¼	.12½	.12½
October	.14¾	.14¼	.12½	.12½
November	.14¾	.14¼	.12½	.12½
December	.15	.14¼	.12½	.12½
Year	.15	.14¼	.15¼	.12½

Citric, Crystals

On October 18, 1871, the price was 80c. per pound; 1881, 63c.; 1891, 42c.; 1901, 36c.; 1911, 38½c.; 1913, 55c.; 1918, December, $1.25.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.87	$0.84	$0.55	$0.47
February	.84	.84	.47	.47
March	.84	.84	.47	.47
April	.84	.84	.47	.47
May	.84	.84	.48	.47
June	.84	.84	.45	.43
July	.84	.84	.45	.43½
August	.84	.84	.43½	.43½
September	.80	.75	.43½	.43½
October	.70	.70	.44	.44
November	.65	.55	.44	.44
December	.55	.55	.44	.43
Year	.87	.55	.55	.43

Muriatic, 22 Degrees

On October 18, 1871, the price was $3 per 100 pounds; 1881, $1.80; 1891, $1.20; 1901, $1.50; 1911, $1.45; 1913, $1.45; 1916, June, $5.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.50	$2.50	$2.50	$2.50
February	2.50	2.50	2.50	2.50
March	2.50	2.50	2.50	2.50
April	3.00	2.50	2.00	2.00
May	3.00	3.00	2.00	1.50
June	3.00	3.00	1.50	1.20
July	3.00	3.00	1.20	1.20
August	3.00	3.00	1.40	1.40
September	3.00	3.00	1.40	1.40
October	3.00	3.00	1.50	1.50
November	3.00	3.00	1.50	1.50
December	3.00	2.50	1.50	1.50
Year	3.00	2.50	2.50	1.20

Formic

In 1911 the price was 11c.; October 18, 1913, 14@14½c.; 1918, January, 36c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.35	$0.35	$0.18	$0.18
February	.35	.35	.18	.18
March	.30	.28	.18	.17
April	.28	.28	.17	.16
May	.35	.33	.16	.16
June	.37	.37	.18	.17
July	.38	.37	.18	.18
August	.38	.38	.18	.18
September	.38	.38	.18	.18
October	.37	.18	.18	.18
November	.18	.18	.18	.18
December	.18	.18	.18	.18
Year	.38	.18	.18	.16

Nitric, 42 Degrees

On October 18, 1871, the price was $13 per 100 pounds; 1881, $8.25; 1891, $4.25; 1901, $4.50; 1911, $4.80; 1913, $4.50; 1917, October, $10.70.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$7.50	$7.00	$7.50	$7.50
February	7.00	7.00	7.50	7.50
March	7.00	7.00	7.50	7.50
April	7.50	7.50	7.25	7.00
May	7.50	7.50	7.25	7.00
June	8.00	7.50	7.00	7.00
July	8.00	7.75	7.00	7.00
August	8.00	7.75	7.00	7.00
September	8.00	8.00	7.00	7.00
October	8.00	8.00	6.75	6.75
November	8.00	8.00	6.75	6.75
December	7.50	7.50	6.75	6.75
Year	8.00	7.00	7.50	6.75

Oleum, 20 Per Cent

On October 18, 1871, the price was $25 per ton; 1881, $15; 1891, $22; 1901, $36; 1911, $22; 1913, $25; 1918, November, $29.50.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$27.00	$27.00	$22.00	$22.00
February	27.00	27.00	22.00	22.00
March	29.00	27.00	22.00	22.00
April	29.00	29.00	22.00	22.00
May	29.00	29.00	22.00	22.00
June	29.00	29.00	22.00	22.00
July	29.00	28.00	21.00	21.00
August	28.00	28.00	21.00	21.00
September	28.00	28.00	21.00	21.00
October	28.00	28.00	21.00	21.00
November	28.00	28.00	21.00	21.00
December	22.00	22.00	21.00	21.00
Year	29.00	22.00	22.00	21.00

Oxalic

On October 18, 1871, the price was 25c. per pound; 1881, .09¾c.; 1891, .06⅞c.; 1901, .05c.; 1911, .07½c.; 1913, .07½c.; 1916, March, .80c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.33	$0.33	$0.25	$0.18
February	.40	.36	.18	.16
March	.44	.42	.16	.16
April	.56	.44	.16½	.16
May	.58	.56	.16½	.16
June	.62	.58	.18	.17
July	.63	.59	.18	.18
August	.60	.52	.17¼	.16
September	.52	.43	.16	.15½
October	.38	.34	.16	.15
November	.28	.20	.14½	.12½
December	.20	.19	.14	.14
Year	.63	.19	.25	.12½

Tartaric, Crystals

On October 18, 1871, the price was 50c. per pound; 1881, 42c.; 1891, 33c.; 1901, 28c.; 1911, 30¾c.; 1913, 31¼c.; 1919, April, 83c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.69½	$0.69½	$0.48	$0.39
February	.69½	.69½	.39	.39
March	.74½	.69½	.39	.39
April	.78½	.74½	.36	.34
May	.78½	.78½	.34	.34
June	.76½	.76½	.33	.30
July	.76½	.76½	.28	.27
August	.76½	.76	.27½	.26¾
September	.76	.75	.26¾	.25
October	.71	.61	.26	.26
November	.68	.61	.26	.25
December	.48	.48	.25	.25
Year	.78½	.48	.48	.25

Sulphuric, 66 Degrees

The price in 1871 was $25 per ton; 1881, $10; 1891, $17; 1901, $27; 1911, $20; 1913, $20; 1916, January, $60.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$22.00	$22.00	$19.00	$18.00
February	22.00	22.00	23.00	21.00
March	24.00	22.00	21.00	21.00
April	24.00	24.00	19.00	19.00
May	24.00	24.00	19.00	19.00
June	24.00	24.00	19.00	18.00
July	24.00	22.00	18.00	18.00
August	22.00	21.00	18.00	18.00
September	22.00	22.00	18.00	18.00
October	22.00	22.00	17.00	17.00
November	22.00	21.00	17.00	17.00
December	18.50	18.00	17.00	17.00
Year	24.00	18.00	23.00	17.00

Tannic, U. S. P.

The price in 1871 was $1.40 per pound; 1881, $1.45; 1891, $1.05; 1901, 65c.; 1911, 58c.; 1913, 54c.; 1918, July, $1.53.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.40	$1.40	$1.20	$1.20
February	1.40	1.40	1.20	1.20
March	1.40	1.40	1.20	1.20
April	1.40	1.40	1.00	.90
May	1.60	1.50	.90	.90
June	1.60	1.60	.90	.90
July	1.60	1.60	.90	.85
August	1.60	1.60	.85	.80
September	1.60	1.60	.80	.80
October	1.55	1.55	.80	.80
November	1.55	1.30	.80	.75
December	1.25	1.20	.75	.75
Year	1.60	1.20	1.20	.75

NATURAL DYES

Albumen, Egg

On October 18, 1871, the price was $1.25 per pound; 1881, 75c.; 1891, 33c.; 1901, 33c.; 1911, 30c.; 1913, 42c.; 1918, July, $2.40.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.60	$1.60	$0.50	$0.42
February	1.60	1.40	.48	.45
March	1.40	1.10	.45	.45
April	1.10	1.10	.45	.45
May	1.00	.95	.45	.45
June	.97	.78	.55	.45
July	.78	.72	.60	.55
August	.72	.68	.60	.55
September	.74	.72	.60	.60
October	.73	.73	.70	.60
November	.73	.60	.70	.70
December	.50	.42	.70	.70
Year	1.60	.42	.70	.42

Annatto, Seed

On October 18, 1871, the price was 30c. per pound; 1881, 20c.; 1891, 10c.; 1901, 8c.; 1911, 32c.; 1913, 7c.; 1917, January, 17c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.05½	$0.04½	$0.05	$0.04
February	.04½	.04½	.04	.04
March	.04½	.04½	.04	.04
April	.04½	.04½	.04	.04
May	.04½	.04	.04	.04
June	.04	.04	.04	.04
July	.04	.03½	.04	.04
August	.03½	.03½	.04	.04
September	.05	.03½	.04	.04
October	.05	.04	.04	.04
November	.04¼	.04¼	.04	.04
December	.04¼	.04	.04	.04
Year	.05½	.03½	.05	.04

Antimony Salt

On October 18, 1871, the price was 11c. per pound; 1881, 6c.; 1891, 4c.; 1901, 16c.; 1911, 12c.; 1913, 11½c.; 1918, November, 75c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.58	$0.58	$0.45	$0.45
February	.60	.58	.40	.40
March	.60	.60	.40	.40
April	.60	.60	.40	.40
May	.62½	.62½	.40	.40
June	.62½	.62½	.40	.38
July	.60	.60	.38	.38
August	.60	.60	.38	.37
September	.60	.60	.36	.36
October	.60	.58	.36	.32
November	.55	.55	.32	.30
December	.55	.45	.30	.30
Year	.62½	.45	.45	.30

Cochineal, Rosy Black

On October 18, 1871, the price was 67½c. per pound; 1881, 43c.; 1891, 27c.; 1901, 20c.; 1911, 25½c.; 1913, 45c.; 1918, November, $1.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.65	$0.65	$0.55	$0.40
February	.65	.65	.40	.40
March	.65	.65	.40	.40
April	.65	.65	.40	.40
May	.65	.63	.40	.40
June	.63	.63	.40	.40
July	.63	.63	.40	.40
August	.63	.63	.40	.40
September	.65	.63	.40	.40
October	.63	.57	.35	.35
November	.57	.56	.35	.35
December	.55	.55	.35	.35
Year	.65	.55	.55	.35

Cutch, Rangoon

On October 18, 1871, the price was 4½c. per pound; 1881, 5½c.; 1891, 7⅛c.; 1901, 4¼c.; 1911, 5¾c.; 1913, 6c.; 1918, November, 27c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.18	$0.18	$0.10	$0.10
February	.18	.18	.10	.10
March	.18	.18	.10	.10
April	.18	.18	.09	.09
May	.18	.18	.09	.09
June	.18	.18	.09	.09
July	Nominal		.09	.09
August	Nominal		.09	.09
September	Nominal		.09	.09
October	Nominal		.09	.08½
November	.12	.11	.08½	.08½
December	.10	.10	.08½	.08½
Year	.18	.10	.10	.08½

Dextrine, Corn

On October 18, 1871, the price was $8 per 100 pounds; 1881, $6.40; 1891, $6; 1901, $2.70; 1911, $2.87; 1913, $3.17; 1918, June, $9.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$6.19	$6.19	$4.00	$4.00
February	6.19	6.19	3.50	3.50
March	6.19	6.19	3.50	3.50
April	6.19	6.19	3.15	3.15
May	7.19	6.19	3.15	3.15
June	7.19	7.19	3.15	3.15
July	7.19	6.94	3.15	2.85
August	6.94	6.55	2.85	2.65
September	6.55	6.55	2.65	2.65
October	6.05	5.55	2.65	2.45
November	5.25	4.30	2.45	2.25
December	4.30	4.00	2.45	2.45
Year	7.19	4.00	4.00	2.25

Dextrine, Potato, Domestic

On May 24, 1881, the price was 8c.; October 18, 1891, 7c.; 1901, 5½c.; 1911, 5½c.; 1913, 6c.; 1918, July, 20½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.13½	$0.13½	$0.07½	$0.07
February	.13½	.13½	.05½	.05½
March	.14	.13½	.07½	.07½
April	.14	.13½	.09	.08
May	.13½	.13	.08	.08
June	.13½	.13	.08	.07
July	.13	.12	.07	.07
August	.12	.12	.07¾	.07
September	.12	.12	.07½	.07½
October	.10	.08¼	.08¾	.08
November	.10	.08	.08	.08
December	.08	.07½	.08	.08
Year	.14	.07½	.09	.05½

Divi Divi

On October 18, 1871, the price was $85 per ton; 1881, $70; 1891, $75; 1901, $32; 1911, $45; 1913, $45; 1919, November, $87.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$85.00	$85.00	$45.00	$35.00
February	85.00	62.50	40.00	40.00
March	76.00	62.50	40.00	40.00
April	76.00	76.00	45.00	45.00
May	76.00	76.00	45.00	45.00
June	70.00	65.00	38.00	38.00
July	65.00	65.00	38.00	38.00
August	65.00	65.00	38.00	38.00
September	65.00	65.00	37.50	35.00
October	65.00	65.00	38.00	38.00
November	60.00	60.00	36.00	34.00
December	37.00	35.00	34.00	34.00
Year	85.00	35.00	45.00	34.00

Fustic, Sticks

On October 18, 1871, the price was $22 per ton; 1881, $18; 1891, $25; 1901, $22; 1911, $22; 1913, $18; 1918, September, $80.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$35.00	$35.00	$35.00	$35.00
February	35.00	35.00	35.00	35.00
March	35.00	35.00	35.00	35.00
April	35.00	35.00	35.00	35.00
May	35.00	35.00	35.00	35.00
June	35.00	35.00	35.00	35.00
July	35.00	35.00	35.00	35.00
August	40.00	35.00	35.00	35.00
September	40.00	40.00	35.00	35.00
October	40.00	40.00	37.00	37.00
November	40.00	40.00	37.00	37.00
December	35.00	35.00	37.00	37.00
Year	40.00	35.00	37.00	35.00

Gambier, Common

On October 18, 1871, the price was 4¾c. per pound; 1881, 3⅞c.; 1891, 5c.; 1901, 5¼c.; 1911, 6¾c.; 1913, 4½c.; 1916, December, 40c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11½	$0.11½	$0.06½	$0.06
February	.11½	.11½	.06½	.06
March	.11½	.11½	.06	.05½
April	.11½	.11½	.05	.05
May	.11½	.10½	.05	.05
June	.10½	.10½	.05	.05
July	.10½	.10½	.05½	.05
August	.10½	.10½	.05	.05
September	.10½	.10½	.05¼	.05
October	.10½	.09½	.06	.05¼
November	.08	.08	.06½	.06¼
December	.07½	.06	.06¾	.06½
Year	.11½	.06	.06¾	.05

Indigo, Bengal

On October 18, 1871, the price was $1.85 per pound; 1881, 90c.; 1891, 80c.; 1901, 60c.; 1911, 67½c.; 1913, 75c.; 1918, July, $3.75.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.25	$2.25	$2.25	$2.25
February	2.25	2.25	2.25	2.25
March	2.25	2.25	2.25	2.25
April	2.25	2.25	2.25	2.25
May	2.25	2.25	2.25	2.15
June	2.25	2.00	2.25	2.15
July	2.00	2.00	2.15	2.15
August	2.00	2.00	2.15	2.15
September	2.00	2.00	2.15	2.15
October	2.00	2.00	Nominal	
November	2.25	2.00	Nominal	
December	2.25	2.00	Nominal	
Year	2.25	2.00	2.25	2.15

Logwood, Sticks, Haitian

On October 18, 1871, the price was $19 per ton; 1881, $18; 1891, $29; 1901, $15; 1911, $15; 1913, $15; 1918, September, $55.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$40.00	$36.00	$30.00	$30.00
February	Nominal		30.00	30.00
March	Nominal		30.00	30.00
April	50.00	50.00	30.00	30.00
May	50.00	47.00	30.00	30.00
June	47.00	47.00	30.00	30.00
July	47.00	47.00	30.00	30.00
August	47.00	47.00	30.00	30.00
September	47.00	47.00	30.00	30.00
October	47.00	47.00	30.00	29.00
November	45.00	45.00	28.00	28.00
December	40.00	30.00	28.00	28.00
Year	50.00	30.00	30.00	28.00

Myrobalans

On October 18, 1881, the price was $38 per ton; 1891, $35; 1901, $35; 1911, $23; 1913, $28; 1917, February, $68.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$55.00	$55.00	$25.00	$21.00
February	55.00	55.00	21.00	20.00
March	55.00	55.00	20.00	18.00
April	55.00	55.00	18.00	18.00
May	57.00	50.00	18.00	18.00
June	57.00	50.00	16.00	12.00
July	50.00	50.00	15.00	14.00
August	50.00	50.00	16.00	15.00
September	47.00	47.00	23.00	15.00
October	47.00	47.00	23.00	23.00
November	47.00	30.00	23.00	20.00
December	30.00	25.00	20.00	20.00
Year	57.00	25.00	25.00	12.00

Paint and Varnish Removers

The paint and varnish trade of the United States and Canada has recognized our patented removers to be the best.

Protected by more than one hundred United States and Canadian Patents.

USE THE BEST
Buy one of the Licensed Brands

Chadeloid Chemical Co.

100 William Street New York, N. Y.

Potash, Bichromate

On October 18, 1871, the price was 23c. per pound; 1881, 16c.; 1891, 9¾c.; 1901, 8¼c.; 1911, 7⅝c.; 1913, 6¾c.; 1917, September, 50c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.30	$0.28	$0.15	$0.14
February	.33	.28	.13½	.13
March	.38	.33	.13	.13
April	.42	.38	.12	.11¾
May	.42	.40	.12	.12
June	.45	.40	.12	.11½
July	.45	.38½	.11½	.11½
August	.38½	.35	.11½	.11¼
September	.34	.32	.11¼	.11
October	.28	.28	.11	.10½
November	.28	.24	.10¾	.10¼
December	.20	.15	.10¼	.10¼
Year	.45	.15	.15	.10¼

Potash, Prussiate, Yellow

On October 18, 1871, the price was 41c. per pound; 1881, 23c.; 1891, 23¾c.; 1901, 13½c.; 1911, 13c.; 1913, 14c.; 1918, January, $1.30.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.38	$0.36	$0.26	$0.26
February	.37	.34	.26	.26
March	.35	.34	.26	.26
April	.35	.35	.26	.25
May	.37	.35	.25	.24
June	.34	.34	.25	.22
July	.38½	.34	.22	.22
August	.38½	.34	.22	.21
September	.38	.34	.21	.19½
October	.37	.37	.19½	.18½
November	.36	.32	.21	.20
December	.32	.26	.25	.22
Year	.38½	.26	.26	.18½

Sago Flour

On October 18, 1871, the price was 8½c. per pound; 1881, 3¾c.; 1891, 4c.; 1901, 2¾c.; 1911, 2⅝c.; 1913, 2¾c.; 1918, August, 10½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.06¼	$0.06¼	$0.04	$0.04
February	.06¼	.06¼	.04	.03½
March	.06	.06	.03½	.03½
April	.06	.06	.03	.03
May	.05¼	.05¼	.03	.03
June	.05¼	.05¼	.02¾	.02¾
July	.05¼	.05	.02¾	.02¾
August	.05	.05	.02¾	.02½
September	.05	.05	.04¼	.04¼
October	.05	.04¼	.03¾	.03½
November	.04¼	.04¼	.03½	.03½
December	.04	.04	.03½	.03½
Year	.06¼	.04	.04¼	.02½

Soda, Acetate

On October 18, 1871, the price was 58c. per pound; 1881, 40c.; 1891, 33c.; 1901, 4¼c.; 1911, 4c.; 1913, 3¾c.; 1918, July, 35c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.06¾	$0.06¾	$0.06½	$0.05½
February	.06¾	.06¾	.05½	.05
March	.08	.06¾	.05	.04¾
April	.08½	.08½	.05	.04½
May	.10½	.09	.04½	.04½
June	.10½	.10½	.04½	.04½
July	.12	.10½	.04¼	.04
August	.12	.09	.04	.04
September	.11	.10½	.04	.04
October	.11	.10	.04	.04
November	.10	.09	.04	.04
December	.08	.06½	.04	.04
Year	.12	.06½	.06½	.04

Soda, Bichromate

On October 18, 1881, the price was 14¾c. per pound; 1891, 8c.; 1901, 6¼c.; 1911, 5⅝c.; 1913, 4⅝c.; 1919, December, 35c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.22	$0.16	$0.08¾	$0.08½
February	.33	.19½	.08¾	.08¼
March	.35	.30	.08¼	.08
April	.45	.34	.07¾	.07⅝
May	.40	.30	.08	.07¾
June	.30	.23¾	.08	.08
July	.26½	.22½	.08	.07¾
August	.24	.20	.07¾	.07¾
September	.18½	.18½	.07¾	.07½
October	.17½	.12	.07¾	.07¾
November	.11	.09	.07¾	.07¾
December	.09¾	.08¾	.07¾	.07¾
Year	.45	.08⅞	.08⅝	.07½

Soda, Hyposulphite, Ordinary

On October 18, 1871, the price was $9 per 100 pounds; 1881, $4.50; 1891, $2; 1901, $1.80; 1911, $1.30; 1913, $1.30; 1918, November, $4.10.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$3.00	$3.00	$3.20	$3.20
February	3.00	3.00	3.25	3.25
March	3.00	3.00	3.25	3.25
April	3.00	3.00	3.25	3.00
May	3.00	3.00	3.25	3.25
June	3.00	3.00	3.25	3.25
July	3.50	3.00	3.25	3.25
August	3.50	3.50	3.25	3.25
September	3.25	3.25	3.25	3.25
October	3.25	3.25	3.25	3.25
November	3.25	3.20	3.25	3.25
December	3.25	3.20	3.25	3.25
Year	3.50	3.00	3.25	3.20

Soda, Phosphate, Commercial

On October 18, 1871, the price was 30c. per pound; 1881, 20c.; 1891, 22c.; 1901, 2½c.; 1911, 2¼c.; 1913, 2¼c.; 1918, January, 7c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.04	$0.04	$0.04	$0.03½
February	.04	.04	.04	.03½
March	.04	.04	.03½	.03½
April	.04	.04	.04	.03½
May	.04	.04	.03½	.03½
June	.04¾	.04	.04	.04
July	.04¾	.04¾	.04	.04
August	.04¾	.04¾	.04	.04
September	.04¾	.04¾	.04	.04
October	.04½	.03¾	.04	.04
November	.03½	.03½	.04	.04
December	.03½	.03½	.04	.04
Year	.04¾	.03½	.04	.03½

Soda, Prussiate, Yellow

On December 8, 1889, the price was 25c. per pound; October 18, 1891, 22c.; 1901, 10¼c.; 1911, 10¾c.; 1913, 10½c.; 1918, June, 75c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28	$0.24	$0.17½	$0.16½
February	.28	.27	.16	.16
March	.32	.26½	.16	.15
April	.32	.31	.12	.11½
May	.36	.29	.11½	.11½
June	.26	.26	.12½	.12
July	.27	.25¾	.12	.12
August	.27	.25	.12½	.12
September	.26	.23½	.12¾	.12½
October	.26	.24	.14½	.12¾
November	.24	.23	.14⅝	.14¼
December	.18	.17½	.16	.14¼
Year	.36	.17⅛	.17½	.11½

Starch, Corn

On October 18, 1871, the price was $3 per 100 pounds; 1881, $2.85; 1891, $2.80; 1901, $1.88; 1911, $2.20; 1913, $2.24; 1919, September, $7.25.

	Per 100 pounds			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.12	$5.12	$2.28	$2.28
February	5.12	5.12	2.58	2.58
March	5.12	5.12	2.58	2.58
April	5.12	5.12	2.48	2.18
May	5.62	5.12	2.18	2.18
June	5.62	5.62	2.33	2.33
July	5.62	5.12	2.53	2.33
August	5.12	4.73	2.53	2.53
September	4.73	4.73	2.08	2.08
October	4.73	3.73	2.08	1.88
November	3.48	3.08	1.88	1.68
December	3.18	2.28	1.93	1.68
Year	5.62	2.28	2.58	1.68

Starch, Potato, Domestic

On October 18, 1871, the price was 3¾c. per pound; 1881, 3¾c.; 1891, 3½c.; 1901, 3¾c.; 1911, 4c.; 1913, 5c.; 1918, April, 15½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.07½	$0.07½	$0.05	$0.05
February	.07½	.07¼	.05	.05
March	.07¼	.06½	.05	.05
April	.06½	.06½	.04½	.04¼
May	.05¾	.05	.04¼	.04¼
June	.06	.05	.03⅞	.03⅞
July	.06½	.06	.04	.04
August	.06½	.06½	.04	.04
September	.06½	.06½	.04¾	.04½
September	.06½	.06½	.05	.05
October	.05	.05	.05	.05
November	.05	.05	.05¼	.05
December	.05	.05	.05	.05
Year	.07½	.05	.05¼	.03⅞

Starch, Potato, Japanese

On October 18, 1871, the price was 3¾c. per pound; 1881, 4½c.; 1891, 3¾c.; 1901, 4c.; 1911, 4¼c.; 1913, 5¼c.; 1918, April, 16c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.07¾	$0.07¾	$0.04	$0.04
February	.07¾	.07½	.04¼	.04¼
March	.07½	.07	.04½	.04½
April	.07	.07	.04¾	.04½
May	.06¾	.05	.04½	.04½
June	.07¼	.05	.04½	.04½
July	.06¾	.06¼	.05	.05
August	.06½	.05½	.05½	.05
September	.06½	.05¼	.06	.05¾
October	.06¾	.06¾	.06	.06
November	.05	.05	.05¾	.05¾
December	.05	.04	.06	.05¾
Year	.07¾	.04	.06	.04

Starch, Wheat

On October 18, 1871, the price was 8½c. per pound; 1881, 7¾c.; 1891, 5¼c.; 1901, 4½c.; 1911, 4⅞c.; 1913, 4⅞c.; 1918, December, 12½c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.09	$0.09	$0.08½	$0.07¾
February	.09	.09	.07¾	.07¾
March	.09	.09	.07¾	.07¾
April	.09	.09	.07	.06¾
May	.09	.08½	.06¾	.06¾
June	.08½	.08½	.06¾	.06¾
July	.08½	.08½	.06¾	.06½
August	.08½	.08½	.07	.07
September	.08½	.08½	.07	.07
October	.08½	.08½	.06½	.06½
November	.08½	.08½	.06½	.06½
December	.09	.08½	.06½	.06½
Year	.09	.08½	.08½	.06½

Sumac, Sicily

On October 18, 1871, the price was $110 per ton; 1881, $75; 1891, $65; 1901, $48; 1911, $51; 1913, $15; 1919, February, $150.

	Per ton			
	1920.		1921.	
	H.	L.	H.	L.
January	$105.00	$100.00	$70.00	$70.00
February	95.00	95.00	70.00	70.00
March	95.00	90.00	70.00	65.00
April	90.00	85.00	65.00	62.00
May	85.00	85.00	62.00	60.00
June	80.00	80.00	55.00	55.00
July	80.00	80.00	55.00	55.00
August	80.00	80.00	58.00	55.00
September	80.00	80.00	58.00	58.00
October	80.00	80.00	55.00	55.00
November	70.00	70.00	55.00	55.00
December	70.00	70.00	55.00	55.00
Year	105.00	70.00	70.00	55.00

Tapioca Flour

On October 18, 1871, the price was 6c. per pound; 1881, 4¼c.; 1891, 4½c.; 1901, 3c.; 1911, 4¼c.; 1913, 3½c.; 1918, June, 18c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.06¼	$0.06¼	$0.03	$0.03
February	.06¼	.06¼	.03	.03
March	.06¼	.06¼	.03	.03
April	.06¼	.06¼	.03	.03
May	.05¼	.05¼	.03	.02¾
June	.05¼	.05¼	.02¾	.02¾
July	.05¼	.05	.02¾	.02¾
August	.05	.05	.02¾	.02¼
September	.05	.05	.02¾	.02½
October	.05	.04	.02¾	.02¾
November	.04	.04	.02¾	.02¾
December	.04	.03	.02½	.02¼
Year	.06¼	.03	.03	.02¼

Tin Crystals

On October 18, 1871, the price was 45c. per pound; 1881, 16½c.; 1891, 14c.; 1901, 20c.; 1911, 25½c.; 1913, 27½c.; 1918, September, 70c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.43	$0.42	$0.31	$0.30
February	.43	.43	.28½	.28½
March	.45	.43	.28½	.28½
April	.45	.45	.30½	.30½
May	.45	.45	.28	.28
June	.43	.43	.29	.29
July	.43	.43	.28	.28
August	.43	.43	.27½	.27½
September	.43	.43	.26½	.26½
October	.40	.35	.27	.27
November	.40	.40	.27	.27
December	.40	.30	.28	.28
Year	.45	.30	.31	.26½

Turmeric, Aleppy

On October 18, 1871, the price was 5¼c. per pound; 1881, 6½c.; 1891, 4⅞c.; 1901, 5¼c.; 1911, 4¾c.; 1913, 4¼c.; 1918, May, 17c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.09	$0.08¾	$0.07½	$0.07½
February	.10	.10	.07¼	.07¼
March	.11	.10	.07¼	.07
April	.11½	.11	.06¾	.06¾
May	.11½	.11	.06½	.06½
June	.11	.10½	.05½	.05¼
July	.10½	.10	.05¾	.05½
August	.10	.09¾	.05¾	.05¾
September	.09¾	.09¼	.06½	.06
October	.09¼	.09	.06	.06
November	.09	.09	.06	.05¼
December	.07¾	.07½	.06	.06
Year	.11½	.07½	.07½	.05¼

Zinc Dust

On March 23, 1881, the price was 15¼c. per pound; October 18, 1891, 7½c.; 1901, 5¾c.; 1911, 7¾c.; 1913, 6½c.; 1916, January, 35c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11½	$0.11	$0.10¼	$0.10¼
February	.11½	.11½	.09½	.09½
March	.11¼	.11½	.09½	.09½
April	.12½	.12½	.11¼	.11¼
May	.12½	.12½	.11¼	.10¾
June	.12½	.12½	.09¾	.08½
July	.12¼	.12½	.08½	.08½
August	.12½	.12½	.08¾	.08¾
September	.12½	.12½	.08	.08
October	.12¼	.12½	.08	.08
November	.12	.09¾	.08	.08
December	.09¾	.09¾	.08½	.08
Year	.12½	.09¾	.11¼	.08

DYEWOOD EXTRACTS

Fustic, Solid

On October 18, 1871, the price was 14½c. per pound; 1881, 11c.; 1891, 9¼c.; 1901, 8¾c.; 1911, 8c.; 1913, 8c.; 1916, January, 55c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.17½	$0.17½	$0.22	$0.22
February	.20	.17½	.22	.22
March	.20	.20	.22	.22
April	.20	.20	.18	.18
May	.22	.20	.18	.18
June	.22	.22	.16	.16
July	.22	.22	.15	.15
August	.22	.22	.15	.15
September	.22	.22	.15	.15
October	.22	.22	.15	.15
November	.24	.22	.15	.14
December	.22	.22	.14	.14
Year	.24	.17½	.22	.14

Fustic, Crystals

On October 18, 1871, the price was 12½c. per pound; 1881, 11c.; 1891, 9½c.; 1901, 8c.; 1911, 8c.; 1913, 6c.; 1916, January, 60c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.24	$0.22	$0.25	$0.25
February	.22	.22	.25	.25
March	.22	.22	.25	.25
April	.22	.22	.25	.25
May	.22	.22	.25	.25
June	.25	.25	.25	.25
July	.25	.25	.24	.24
August	.27	.25	.24	.24
September	.25	.25	.24	.24
October	.25	.25	.24	.24
November	.25	.25	.24	.22
December	.25	.25	.22	.22
Year	.27	.22	.25	.22

Logwood, Solid

On October 18, 1871, the price was 9¼c. per pound; 1881, 8¼c.; 1891, 7¼c.; 1901, 8c.; 1911, 6c.; 1913, 6c.; 1916, January, 90c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.22	$0.17½	$0.14¾	$0.14¾
February	.22	.22	.14¾	.14¾
March	.23	.22	.14¾	.14¾
April	.23	.23	.14¾	.14¾
May	.25	.23	.14¾	.14¾
June	.25	.25	.14¾	.14¾
July	.25	.25	.14¾	.14¾
August	.25	.25	.14¾	.14¾
September	.25	.25	.14¾	.14¾
October	.25	.25	.14¾	.14¾
November	.25	.19	.14¾	.14¾
December	.19	.14¾	.14¾	.14¾
Year	.25	.14¾	.14¾	.14¾

Quebracho, Solid

On August 16, 1881, the price was 4¼c. per pound; October 18, 1891, 3½c.; 1901, 4¾c.; 1911, 4¾c.; 1913, 4¾c.; 1916, January, 20c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11½	$0.11½	$0.05½	$0.05
February	.11½	.11½	.06	.06
March	.11½	.11½	.06	.06
April	.11½	.11½	.05½	.04¾
May	.11	.11	.04¾	.04¾
June	.10½	.10½	.04¾	.04¾
July	.10½	.10½	.04¾	.04¾
August	.10½	.10½	.04¾	.04¾
September	.10½	.10½	.04½	.04½
October	.10	.10	.04½	.04½
November	.08	.07	.04¾	.04½
December	.06½	.05½	.04¾	.04¾
Year	.11½	.05½	.06	.04½

Quercitron, Solid

On October 18, 1871, the price was 2c. per pound; 1881, 7c.; 1891, 6½c.; 1901, 3c.; 1911, 2¾c.; 1913, 2¾c.; 1916, January, 30c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.11	$0.11	$0.12	$0.12
February	.11	.11	.12	.12
March	.12	.11	.12	.12
April	.12	.12	.10	.10
May	.12	.12	.10	.10
June	.12	.12	.10	.10
July	.12	.12	.10	.09
August	.12	.12	.09	.09
September	.12	.12	.09	.09
October	.12	.12	.09	.09
November	.12	.12	.09	.09
December	.12	.12	.09	.09
Year	.12	.11	.12	.09

Sumac, Sicilian, Stainless

On January 12, 1877, the price was 6c. per pound; October 18, 1881, 5¼c.; 1891, 6½c.; 1901, 7c.; 1911, 6¼c.; 1913, 8c.; 1919, May, 16c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.14	$0.14	$0.14½	$0.14½
February	.14	.14	.14½	.14½
March	.15	.14	.14½	.14½
April	.15	.14½	.13	.13
May	.15	.15	.13	.12
June	.15	.15	.12	.12
July	.15	.15	.12	.12
August	.15	.15	.12	.12
September	.15	.15	.12	.12
October	.15	.15	.12	.12
November	.15	.15	.12	.12
December	.15	.14½	.12	.12
Year	.15	.14	.14½	.12

COAL TAR DYES

Acid, Benzoic, Technical

On October 18, 1871, the price was 30c. per ounce; 1881, 22c.; 1891, 8c.; 1901, 12½c.; 1911, 11¼c.; 1913, 23c. per pound; 1916, December, $9.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.75	$0.75	$0.65	$0.65
February	.75	.75	.58	.55
March	.75	.75	.55	.55
April	.75	.75	.55	.55
May	.75	.75	.55	.55
June	.75	.75	.55	.50
July	.75	.75	.50	.50
August	.75	.75	.50	.50
September	.75	.65	.50	.50
October	.65	.65	.50	.50
November	.65	.65	.50	.50
December	.65	.65	.50	.50
Year	.75	.65	.65	.50

Acid, Cresylic, 97@99 Per Cent.

In August, 1918, the price was $1.25 per gallon.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.85	$0.85	$0.85	$0.80
February	.90	.85	.80	.80
March	.90	.90	.80	.80
April	.90	.90	.80	.80
May	1.10	1.00	.80	.80
June	1.15	1.10	.80	.75
July	1.20	1.20	.68	.68
August	1.20	1.15	.68	.65
September	1.15	1.15	.65	.65
October	1.15	1.15	.70	.70
November	1.15	.95	.70	.70
December	.85	.85	.70	.70
Year	1.20	.85	.85	.65

Acid H

In August, 1918, the price was $3.40 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.65	$1.65	$1.40	$1.25
February	1.70	1.65	1.30	1.20
March	1.85	1.70	1.20	1.20
April	2.25	1.85	1.25	1.20
May	2.25	2.25	1.20	1.20
June	2.25	2.25	1.20	1.20
July	2.25	2.25	1.20	1.15
August	2.25	2.05	1.15	1.10
September	2.05	1.70	1.10	1.05
October	1.70	1.60	1.05	1.00
November	1.60	1.40	1.00	1.00
December	1.40	1.40	1.00	1.00
Year	2.25	1.40	1.40	1.00

Acid, Phthalic, Anhydride

In December, 1917, the price was $6 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.75	$0.60	$0.55	$0.50
February	.60	.60	.50	.50
March	.60	.60	.50	.50
April	.60	.60	.50	.50
May	.60	.45	.50	.50
June	.55	.50	.50	.50
July	.55	.55	.50	.45
August	.55	.55	.40	.40
September	.55	.50	.40	.40
October	.50	.50	.40	.40
November	.55	.50	.40	.40
December	.55	.55	.40	.40
Year	.75	.45	.55	.40

Acid, Picric

In August, 1881, the price was 45c. per pound; 1891, 52½c.; 1901, 40c.; 1911, 55c.; 1913, 50c.; 1916, May, $1.50.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.20	$0.30	$0.30
February	.25	.25	.30	.30
March	.25	.23	.30	.30
April	.23	.23	.20	.20
May	.23	.23	.20	.20
June	.30	.30	.20	.20
July	.30	.30	.20	.20
August	.30	.30	.20	.20
September	.30	.30	.20	.20
October	.30	.30	.20	.20
November	.30	.30	.20	.20
December	.30	.30	.20	.20
Year	.30	.20	.30	.20

Acid, Salicylic, Technical

On August 1, 1881, the price was $1.40 per pound; 1891, $1.12; 1901, 39½c.; 1911, 32c.; 1913, 25c.; 1916, April, $4.25.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.43	$0.43	$0.25	$0.25
February	.45	.43	.25	.21
March	.45	.45	.21	.21
April	.50	.50	.23	.22
May	.50	.47	.22	.22
June	.47	.47	.22	.20
July	.47	.47	.20	.20
August	.47	.47	.20	.20
September	.42	.37	.20	.18
October	.37	.37	.18	.18
November	.37	.37	.18	.18
December	.32	.32	.20	.20
Year	.50	.32	.25	.18

Acid, Sulphanilic

In December, 1916, the price was 45c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28	$0.28	$0.32	$0.31
February	.28	.28	.31	.31
March	.28	.28	.31	.31
April	.28	.28	.30	.30
May	.32	.28	.30	.30
June	.35	.32	.30	.28
July	.37½	.35	.28	.27
August	.37½	.37½	.27	.27
September	.37½	.37½	.27	.27
October	.37½	.37½	.26	.26
November	.37½	.37½	.26	.26
December	.35	.32	.26	.26
Year	.37½	.28	.32	.26

Alpha-Naphthol, Crude

In December, 1917, the price was $1.25 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.05	$0.95	$1.25	$1.25
February	1.05	1.05	1.20	1.20
March	1.05	1.00	1.20	1.20
April	1.10	1.00	1.15	1.10
May	1.15	1.15	1.10	1.10
June	1.15	1.15	1.10	1.10
July	1.15	1.15	1.10	1.10
August	1.15	1.15	1.10	1.10
September	1.15	1.10	1.10	1.05
October	1.25	1.10	1.05	1.00
November	1.25	1.25	1.00	1.00
December	1.25	1.25	1.00	1.00
Year	1.25	.95	1.25	1.00

Alpha-Naphthylamine

In January, 1917, the price was $1.35 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.35	$0.35	$0.45	$0.40
February	.38	.38	.40	.40
March	.40	.38	.40	.40
April	.50	.40	.35	.35
May	.56	.50	.35	.35
June	.56	.56	.35	.35
July	.56	.52	.35	.35
August	.52	.48	.35	.33
September	.48	.46	.33	.32
October	.46	.45	.32	.27
November	.40	.40	.32	.30
December	.40	.40	.30	.27
Year	.56	.35	.45	.27

Benjamin Moore

FOUNDER

BENJAMIN MOORE & CO. originally established in 1883 as Moore Bros. manufacturing prepared hot water kalsomine. Originators of Strictly Pure Colors ground in Oil.

Incorporated in 1889 for the manufacture of a general line of paints, continuing the manufacture of kalsomine—the principal item of production.

In 1892 the hot water kalsomine known as Muresco was perfected and placed on the market, and has become today the largest selling product of the kind made in the United States.

In 1897 the Chicago factory was established. Each year the sales increased, despite the period of depression following the Panic of 1893.

The manufacture of Whiting for Muresco was started in 1903, to assure proper quality and uninterrupted supply. plant being at Carteret, N. J.

A factory in Cleveland was established in 1904, making a new point for the manufacture and sale of the company's products, the demand for which had steadily increased.

The Canadian factory at Toronto was established in 1906—another link in the chain.

All factories in the U. S. were incorporated into one concern in 1908, and in the same year the Colonial Paint Co. of Cleveland was absorbed.

In 1913 the manufacture of Varnishes started at Carteret.

In 1915 the Becker-Moore Paint Co. of St. Louis was absorbed, to become another manufacturing and distributing centre.

Today, every factory is running full, to supply the demand for Paints, Varnishes and Muresco, which is ever on the increase.

The merchandising policy of the founder continues—A fair deal to all—full value for every dollar received—in short, the application of intelligence to industry, based upon integrity.

"Every year is a Better year for Moore Paint Dealers."

Benjamin Moore & Co.

New York **Chicago** **Cleveland**
St. Louis **Carteret** **Toronto**

Aniline Oil

On August 16, 1881, the price was 26c. per pound; October 18, 1891, 25c.; 1901, 9c.; 1911, 10¾c.; 1913, 10½c.; 1916, December, 95c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.36	$0.34	$0.26	$0.20½
February	.34	.32	.22	.21
March	.32	.32	.21	.20
April	.38	.32	.20	.18
May	.38	.32	.20	.20
June	.35	.33	.20	.20
July	.33	.32	.18	.18
August	.32	.26	.18	.18
September	.28	.27½	.18	.18
October	.27	.27	.18	.18
November	.27	.25	.18	.18
December	.25	.22	.18	.17
Year	.38	.22	.26	.17

Aniline Salt

On August 16, 1881, the price was 36c. per pound; October 18, 1891, 21c.; 1901, 8½c.; 1911, 9½c.; 1913, 8⅝c.; 1916, December, $1.35.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.49	$0.42	$0.28	$0.28
February	.49	.42	.28	.28
March	.42	.42	.28	.28
April	.49	.42	.27	.25
May	.49	.39	.25	.25
June	.37	.37	.25	.25
July	.37	.37	.25	.25
August	.37	.35	.25	.25
September	.34	.34	.25	.25
October	.34	.33	.25	.25
November	.33	.33	.24	.24
December	.28	.28	.24	.24
Year	.49	.28	.28	.24

Anthracene, 80 Per Cent.

In December, 1919, the price was $1 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.75	$0.75	$0.85	$0.80
February	.75	.75	.85	.85
March	.95	.75	.85	.85
April	.95	.95	.85	.85
May	1.00	.95	.85	.80
June	1.00	1.00	.80	.75
July	1.00	1.00	.75	.75
August	1.00	1.00	.75	.75
September	1.00	1.00	.75	.75
October	1.00	1.00	.75	.75
November	1.00	.80	.75	.75
December	.80	.80	.75	.75
Year	1.00	.75	.85	.75

Beta-Naphthylamine, Technical

In January, 1918, the price was $2 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.40	$1.40	$1.40	$1.40
February	1.50	1.40	1.30	1.25
March	1.50	1.50	1.25	1.25
April	1.50	1.50	1.25	1.15
May	1.50	1.50	1.25	1.15
June	1.50	1.50	1.15	1.15
July	1.50	1.50	1.15	1.15
August	1.50	1.50	1.05	1.05
September	1.50	1.50	1.05	1.05
October	1.50	1.50	1.05	1.05
November	1.40	1.40	1.05	1.05
December	1.40	1.40	1.05	1.00
Year	1.50	1.40	1.40	1.00

Beta Naphthol, Sublimed

In February, 1917, the price was $1.05 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.69	$0.68	$0.70	$0.70
February	.70	.68	.70	.70
March	.70	.70	.70	.70
April	.70	.70	.70	.70
May	Nominal		.70	.70
June	Nominal		.70	.70
July	Nominal		.70	.70
August	Noimnal		.70	.70
September	Nominal		.70	.70
October	Nominal		.70	.70
November	Nominal		.70	.70
December	Nominal		.70	.65
Year	.70	.68	.70	.65

Beta Naphthol, Technical

	Per pound	
	1921.	
	H.	L.
January	$0.35	$0.35
February	.38	.32
March	.32	.31
April	.35	.34
May	.36	.34
June	.37	.36
July	.38	.34
August	.34	.33
September	.33	.32
October	.30	.29
November	.30	.29
December	.29	.28
Year	.38	.28

Benzaldehyde, Technical

In April, 1918, the price was $5.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.75	$0.75	$0.50	$0.45
February	.75	.75	.45	.45
March	.75	.75	.45	.45
April	.75	.65	.45	.45
May	.65	.65	.45	.45
June	.65	.65	.45	.45
July	.65	.65	.45	.45
August	.65	.65	.45	.45
September	.65	.65	.45	.45
October	.65	.65	.45	.45
November	.65	.55	.45	.45
December	.50	.50	.45	.45
Year	.75	.50	.50	.45

Benzidine Base

In March, 1917, the price was $2.10 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.30	$1.25	$0.95	$0.95
February	1.30	1.25	.95	.95
March	1.25	1.25	.95	.90
April	1.30	1.25	.90	.90
May	1.30	1.30	.90	.90
June	1.35	1.30	.90	.85
July	1.30	1.30	.85	.85
August	1.30	1.25	.90	.85
September	1.25	1.25	1.00	.90
October	1.25	1.20	1.00	.95
November	1.10	1.10	1.00	1.00
December	.95	.95	1.00	.90
Year	1.35	.95	1.00	.85

Benzol, 90 Per Cent.

In March, 1916, the price was 90c. per gallon.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.34	$0.34	$0.28	$0.27
February	.34	.25	.27	.27
March	.25	.25	.27	.27
April	.28	.25	.27	.27
May	.28	.28	.27	.27
June	.28	.28	.27	.27
July	.33	.32	.27	.27
August	.33	.33	.27	.27
September	.33	.33	.25	.25
October	.33	.32	.25	.25
November	.33	.31	.25	.25
December	.33	.33	.27	.25
Year	.34	.25	.28	.25

Benzyl Chloride, 95@97 Per Cent.

In May, 1918, the price was $2.70 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.35	$0.35	$0.25	$0.25
February	.35	.35	.25	.25
March	.35	.35	.25	.25
April	.35	.35	.40	.40
May	.35	.35	.40	.40
June	.35	.35	.35	.35
July	.35	.35	.28	.25
August	.35	.35	.25	.25
September	.35	.35	.25	.25
October	.35	.35	.25	.25
November	.45	.45	.25	.25
December	.45	.25	.25	.25
Year	.45	.25	.40	.25

Creosote Oil, 25 Per Cent.

In July, 1918, the price was 55c. per gallon.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.40	$0.40	$0.38	$0.38
February	.40	.40	.38	.38
March	.40	.40	.38	.36¼
April	.40	.40	.36¼	.36¼
May	.40	.40	.36¾	.36¾
June	.40	.40	.36¾	.31
July	.40	.40	.31	.31
August	.40	.40	.31	.30
September	.40	.40	.30	.30
October	.40	.40	.30	.30
November	.38	.38	.26¼	.26¼
December	.38	.38	.26¼	.26¼
Year	.40	.38	.38	.26¼

Cresol, U. S. P.

In January, 1917, the price was $1.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.14¾	$0.14½	$0.17	$0.16
February	.15¾	.15¾	.17	.17
March	.15¾	.15¾	.17	.17
April	.16¾	.15¾	.16	.16
May	.17	.16¾	.16	.16
June	.17½	.17	.14	.14
July	.18	.18	.16	.14
August	.18	.18	.16	.14
September	.18	.18	.14	.14
October	.18	.18	.14	.14
November	.18	.18	.14	.14
December	.16	.16	.14	.14
Year	.18	.14½	.17	.14

Diethylaniline

In May, 1918, the price was $5.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.30	$1.30	$1.25	$1.20
February	1.30	1.30	1.20	1.20
March	1.40	1.35	1.20	1.20
April	1.40	1.40	1.20	1.20
May	1.85	1.85	1.20	1.20
June	1.85	1.75	1.20	1.20
July	1.75	1.50	1.20	1.20
August	1.50	1.50	1.20	1.20
September	1.55	1.55	1.20	1.20
October	1.55	1.52	1.00	1.00
November	1.52	1.50	1.00	.92
December	1.52	1.50	.92	.90
Year	1.85	1.30	1.25	.90

Dimethylaniline

In May, 1920, the price was $1.65 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.90	$0.75	$0.60	$0.55
February	.90	.90	.55	.50
March	Nominal		.50	.50
April	1.60	1.60	.47	.45
May	1.65	1.35	.45	.45
June	1.35	1.30	.45	.42
July	1.30	1.30	.42	.40
August	1.30	.97	.45	.40
September	.95	.90	.45	.40
October	.90	.85	.42	.40
November	.85	.85	.45	.42
December	.65	.60	.45	.40
Year	1.65	.60	.60	.40

Dinitrobenzol

In September, 1917, the price was 50c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.27	$0.27	$0.25	$0.25
February	.29	.27	.25	.25
March	.30	.29	.25	.25
April	.30	.30	.25	.25
May	.32	.32	.27	.25
June	.32	.32	.27	.27
July	.32	.32	.23	.23
August	.32	.32	.23	.23
September	.32	.32	.23	.23
October	.32	.32	.25	.21
November	.32	.29	.21	.21
December	.25	.25	.21	.21
Year	.32	.25	.27	.21

Dinitrochlorbenzol

In January, 1917, the price was 55c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28	$0.25	$0.24	$0.20
February	.28	.23	.20	.20
March	.28	.23	.20	.20
April	.28	.23	.20	.20
May	.28	.28	.20	.20
June	.28	.28	.20	.20
July	.28	.28	.20	.20
August	.28	.28	.20	.20
September	.28	.28	.20	.20
October	.28	.28	.20	.20
November	.28	.25	.20	.20
December	.24	.24	.20	.20
Year	.28	.23	.24	.20

Dinitronaphthaline

In February, 1917, the price was 80c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.45	$0.45	$0.33	$0.33
February	.45	.45	.33	.30
March	.45	.45	.30	.30
April	.45	.45	.30	.30
May	.45	.45	.30	.30
June	.45	.45	.30	.30
July	.45	.45	.30	.30
August	.45	.45	.30	.30
September	.45	.45	.30	.30
October	.45	.45	.30	.30
November	.45	.33	.30	.30
December	.33	.33	.30	.30
Year	.45	.33	.33	.30

Diphenylamine

In January, 1917, the price was $1.10 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.60	$0.60	$0.70	$0.65
February	.60	.60	.65	.65
March	Nominal		.65	.65
April	Nominal		.60	.60
May	.90	.90	.60	.60
June	.90	.90	.60	.60
July	.87	.87	.60	.60
August	.87	.85	.60	.60
September	.80	.80	.60	.60
October	.80	.78	.60	.60
November	.80	.78	.60	.60
December	.78	.70	.60	.60
Year	.90	.60	.70	.60

Nitrobenzol

On August 16, 1881, the price was 32c. per pound; October 18, 1891, 15c.; 1901, 7¾c.; 1911, 6¾c.; 1913, 6½c.; 1917, February, 25c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.14½	$0.14	$0.12	$0.12
February	.14½	.13½	.12	.12
March	.13½	.13½	.12	.12
April	.13½	.13½	.12	.12
May	.14½	.13½	.12	.12
June	.14½	.14½	.14	.12
July	.14½	.14½	.14	.12
August	.15	.15	.12	.12
September	.15	.15	.12	.12
October	.15	.13	.12	.12
November	.13	.13	.10	.10
December	.13	.12	.10	.10
Year	.15	.12	.14	.10

Metanitraniline

In December, 1917, the price was $1.50 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$1.00	$1.00	$0.90	$0.90
February	1.00	1.00	.90	.90
March	1.00	1.00	.90	.90
April	1.00	1.00	.90	.90
May	1.05	1.00	.90	.90
June	1.05	1.05	.90	.90
July	1.05	1.00	.90	.90
August	1.00	1.00	.90	.90
September	1.00	.95	.95	.90
October	.95	.95	.95	.95
November	.95	.95	.95	.95
December	.95	.90	.95	.95
Year	1.05	.90	.95	.90

Metanitroparatoluidine

In September, 1918, the price was $7 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$3.50	$3.50	$3.50	$3.00
February	3.50	3.50	3.00	3.00
March	3.50	3.50	3.00	3.00
April	3.50	3.50	3.00	3.00
May	3.50	3.50	3.00	3.00
June	3.50	3.50	3.00	3.00
July	3.50	3.50	3.00	3.00
August	3.50	3.50	3.00	2.90
September	3.50	3.50	2.90	2.90
October	3.50	3.50	2.90	2.60
November	3.50	3.50	2.60	2.50
December	3.50	3.50	2.50	2.50
Year	3.50	3.50	3.50	2.50

Metaphenylenediamine

In June, 1917, the price was $2.05 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$1.10	$1.10	$1.25	$1.25
February	1.15	1.10	1.25	1.25
March	1.15	1.10	1.25	1.25
April	1.15	1.15	1.20	1.15
May	1.25	1.15	1.15	1.15
June	1.25	1.25	1.15	1.15
July	1.30	1.25	1.15	1.15
August	1.30	1.30	1.15	1.15
September	1.40	1.25	1.10	1.10
October	1.25	1.25	1.10	1.10
November	1.30	1.30	1.10	1.05
December	1.25	1.25	1.05	1.05
Year	1.40	1.10	1.25	1.05

Monoethylaniline

In September, 1918, the price was $1.85 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$1.75	$1.75	$1.25	$1.25
February	1.75	1.75	1.75	1.75
March	1.75	1.75	1.75	1.75
April	1.75	1.75	1.75	1.75
May	1.75	1.75	1.75	1.75
June	1.75	1.75	1.75	1.75
July	1.75	1.75	1.75	1.75
August	1.75	1.75	1.75	1.10
September	1.75	1.75	1.10	1.10
October	1.75	1.75	1.10	1.10
November	1.75	1.75	1.10	1.10
December	1.75	1.75	1.10	1.10
Year	1.75	1.75	1.75	1.10

Naphtha, Solvent

In January, 1917, the price was 30c. per gallon.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.32	$0.32	$0.28	$0.28
February	.32	.25	.28	.28
March	.22	.22	.28	.28
April	.22	.22	.25	.25
May	.25	.25	.25	.25
June	.25	.25	.25	.25
July	.30	.30	.25	.25
August	.30	.30	.25	.25
September	.30	.30	.25	.25
October	.30	.30	.25	.25
November	.30	.30	.25	.25
December	.28	.28	.25	.25
Year	.32	.22	.28	.25

Naphthaline, Flake

In 1901 the price was 2¾c. per pound, October 18, 1911, 2½c.; 1913, 2¾c.; 1916, March, 16c.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.07	$0.07	$0.08	$0.07¾
February	.07	.07	.08	.08
March	.09¼	.07	.08	.07½
April	.18	.09¾	.08	.07½
May	.17	.15	.07½	.07
June	.19	.15	.08	.07
July	.21	.19	.07¼	.07
August	.21	.19	.07	.06¾
September	.18	.12½	.06¾	.06½
October	.12½	.09	.06½	.06½
November	.10	.08	.07	.06½
December	.08½	.07¾	.07	.06½
Year	.21	.07	.08	.06½

Nitronaphthaline

In May, 1918, the price was 55c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.40	$0.40	$0.40	$0.40
February	.40	.40	.40	.40
March	.40	.40	.40	.40
April	.40	.40	.40	.40
May	.40	.40	.40	.40
June	.40	.40	.40	.40
July	.40	.40	.30	.30
August	.40	.40	.30	.30
September	.40	.40	.30	.30
October	.40	.40	.30	.30
November	.40	.40	.30	.30
December	.40	.40	.30	.30
Year	.40	.40	.40	.30

Orthonitrophenol

In October, 1918, the price was $1.70 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.80	$0.80	$0.75	$0.75
February	.80	.80	.75	.75
March	.80	.80	.75	.70
April	.80	.80	.75	.75
May	.80	.80	.75	.75
June	.85	.80	.85	.75
July	.85	.85	.85	.75
August	.87	.75	.75	.75
September	.75	.75	.75	.75
October	.75	.75	.75	.70
November	.75	.75	.70	.68
December	.75	.75	.68	.65
Year	.87	.75	.85	.65

Orthonitrotoluol

In January, 1917, the price was 65c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.25	$0.23	$0.18
February	.25	.25	.18	.18
March	.25	.25	.18	.18
April	.25	.25	.12	.12
May	.25	.25	.12	.12
June	.25	.25	.12	.12
July	.25	.25	.23	.15
August	.25	.25	.23	.15
September	.25	.23	.15	.15
October	.23	.23	.15	.15
November	.23	.23	.15	.15
December	.23	.23	.15	.15
Year	.25	.23	.23	.12

Orthotoluidine

In March, 1918, the price was $1.25 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.25	$0.25	$0.30	$0.20
February	.30	.25	.20	.20
March	.25	.25	.20	.20
April	.30	.30	.20	.20
May	.40	.35	.20	.20
June	.40	.40	.20	.20
July	.40	.33	.20	.20
August	.33	.33	.20	.20
September	.33	.33	.20	.20
October	.33	.33	.20	.20
November	.33	.33	.20	.20
December	.33	.32	.20	.20
Year	.40	.25	.30	.20

Paramidophenol Base

In March, 1918, the price was $5.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.75	$2.75	$1.90	$1.90
February	2.75	2.75	1.90	1.90
March	2.75	2.75	1.90	1.85
April	2.75	2.75	1.75	1.60
May	2.75	2.75	1.60	1.60
June	2.75	2.75	1.60	1.50
July	2.75	2.75	1.50	1.50
August	2.75	2.75	1.40	1.40
September	2.75	2.75	1.40	1.40
October	2.75	2.75	1.40	1.40
November	2.75	2.10	1.30	1.30
December	2.10	1.90	1.30	1.25
Year	2.75	1.90	1.90	1.25

Paranitraniline

In October, 1918, the price was $1.90 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.30	$1.15	$0.90	$0.85
February	1.35	1.30	.95	.75
March	Nominal		.85	.75
April	1.65	1.65	.85	.85
May	1.65	1.50	.85	.85
June	1.50	1.35	.85	.80
July	1.40	1.35	.80	.75
August	1.35	1.15	.80	.75
September	1.10	1.08	.80	.78
October	1.10	1.10	.78	.77
November	1.10	1.05	.75	.75
December	.95	.90	.77	.75
Year	1.65	.90	.95	.75

Paranitroacetanilide

In July, 1918, the price was $1.80 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$0.75	$0.75	$0.70	$0.60
February	.75	.75	.60	.60
March	.75	.70	.60	.60
April	.70	.70	.60	.60
May	.70	.70	.60	.60
June	.70	.70	.60	.60
July	.75	.70	.65	.65
August	.78	.75	.60	.60
September	.78	.78	.60	.60
October	.78	.78	.60	.55
November	.75	.75	.60	.60
December	.75	.70	.65	.60
Year	.78	.70	.70	.55

Paranitrophenol

In June, 1918, the price was $1.40 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$1.20	$1.20	$0.75	$0.70
February	1.20	1.20	.70	.70
March	1.20	1.10	.70	.70
April	1.10	1.10	.70	.70
May	1.10	1.10	.70	.70
June	1.10	1.10	.75	.70
July	1.10	1.00	.75	.75
August	.80	.75	.75	.75
September	.75	.75	.75	.75
October	.75	.75	.65	.57
November	.75	.75	.70	.57
December	.75	.75	.70	.70
Year	1.20	.75	.75	.57

Paranitrotoluol

In January, 1918, the price was $1.60 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$1.25	$1.25	$0.90	$0.90
February	1.25	1.25	.90	.90
March	1.25	1.25	.90	.85
April	1.25	1.25	.90	.90
May	1.25	1.25	.90	.90
June	1.25	1.25	.90	.90
July	1.25	1.25	.90	.90
August	1.25	1.25	.90	.90
September	1.25	1.15	.90	.90
October	1.15	1.15	.90	.90
November	1.15	1.15	.90	.80
December	1.15	.90	.80	.80
Year	1.35	.90	.90	.80

Blacks for All the World

BLACKS

Carbon, Bone, Drop Ivory

for All Purposes

IT is gratifying to consider the forward march of the paint industry during the last half century and to review the important contributions to its development made by

BINNEY & SMITH CO.

In the laboratories of this company science has attained many notable achievements giving the world the benefits of discoveries and refinements unknown to our grandfathers.

Specializing from the start in

BLACKS

of every description

Binney & Smith Co. has contributed no small share to the standardization, uniformity and economical manufacture of these pigments. That users of blacks consider it of value to buy from a house which has figured so prominently in the development of the industry at large is evident by the number of their friends and customers located in every country of the world.

Binney & Smith Co.
Blacks of Superiority

81 Fulton Street — New York City

Paratoluidine

In January, 1918, the price was $2.50 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$2.00	$2.00	$1.75	$1.50
February	2.00	1.75	1.50	1.50
March	1.75	1.75	1.50	1.45
April	2.00	2.00	1.25	1.25
May	2.00	2.00	1.25	1.25
June	2.00	2.00	1.25	1.25
July	2.00	2.00	1.25	1.25
August	2.00	2.00	1.25	1.25
September	1.75	1.75	1.25	1.25
October	1.75	1.75	1.25	1.25
November	1.75	1.75	1.25	1.25
December	1.75	1.75	1.25	1.10
Year	2.00	1.75	1.75	1.10

Phenol, U. S. P.

On July 10, 1875, the price was 55c. per pound; October 18, 1881, 40c.; 1891, 12c.; 1901, 23c.; 1911, 15c.; 1913, 8½c.; 1918, February, 18c.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$0.12	$0.12	$0.09½	$0.09
February	.12	.12	.11	.10
March	.12	.12	.10	.10
April	.12	.12	.10½	.10½
May	.12	.12	.10½	.10
June	.12	.12	.10	.09½
July	.12	.12	.09½	.09
August	.12	.12	.09½	.09½
September	.12	.12	.09½	.09
October	.12	.12	.09	.09
November	.12	.09	.10½	.10
December	.10	.07	.11	.10½
Year	.12	.07	.11	.09

Phosgene

In September, 1918, the price was $1.75 per pound.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$0.75	$0.75	$0.45	$0.45
February	.75	.75	.50	.50
March	.75	.75	.75	.50
April	.75	.75	.50	.50
May	.75	.75	.50	.50
June	.75	.75	.75	.50
July	.65	.65	.75	.75
August	.65	.65	.75	.75
September	.65	.65	.75	.75
October	1.00	.50	.75	.75
November	.75	.45	.75	.75
December	.50	.50	.75	.75
Year	1.00	.45	.75	.45

Resorcin, Technical

In December, 1911, the price was 80c. per pound; 1917, December, $9.

	Per pound			
	1920		1921.	
	H.	L.	H.	L.
January	$4.00	$4.00	$2.50	$1.95
February	4.00	4.00	1.95	1.95
March	4.00	4.00	1.95	1.90
April	3.75	3.75	1.75	1.70
May	3.75	3.75	1.70	1.65
June	4.00	3.75	1.65	1.60
July	4.00	2.80	1.60	1.60
August	3.75	2.80	1.60	1.50
September	3.75	3.75	1.50	1.50
October	3.75	2.75	1.60	1.60
November	2.75	2.75	1.40	1.40
December	2.75	2.50	1.40	1.40
Year	4.00	2.50	2.50	1.40

Tolidin

In June, 1918, the price was $3 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.70	$1.70	$1.30	$1.30
February	1.70	1.70	1.30	1.25
March	1.70	1.70	1.25	1.25
April	1.70	1.70	1.25	1.25
May	1.70	1.70	1.25	1.25
June	1.70	1.70	1.25	1.25
July	1.70	1.70	1.25	1.25
August	1.70	1.70	1.20	1.20
September	1.70	1.70	1.20	1.20
October	1.70	1.70	1.20	1.20
November	1.70	1.70	1.20	1.20
December	1.30	1.30	1.20	1.20
Year	1.70	1.30	1.30	1.20

Toluol

In February, 1918, the price was $6 per gallon.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.28	$0.28	$0.30	$0.30
February	.28	.28	.30	.30
March	.28	.28	.30	.30
April	.28	.28	.30	.30
May	.31	.31	.30	.30
June	.31	.31	.30	.30
July	.35	.34	.30	.30
August	.35	.35	.27	.27
September	.35	.35	.27	.27
October	.35	.35	.27	.27
November	.30	.30	.27	.27
December	.30	.30	.27	.27
Year	.35	.28	.30	.27

Xylol, Pure

In February, 1917, the price was $1.20 per gallon.

	Per gallon			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.40	$0.40	$0.42	$0.42
February	.40	.40	.42	.42
March	.40	.40	.42	.40
April	.40	.40	.40	.40
May	.40	.40	.40	.40
June	.40	.40	.40	.40
July	.40	.40	.40	.40
August	.45	.40	.40	.40
September	.45	.45	.40	.40
October	.45	.42	.40	.40
November	.42	.42	.40	.40
December	.42	.42	.40	.40
Year	.45	.40	.42	.40

Xylidine

In January, 1918, the price was 90c. per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.45	$0.45	$0.40	$0.40
February	.45	.45	.40	.40
March	.45	.45	.40	.40
April	.45	.45	.40	.40
May	.45	.45	.40	.40
June	.45	.42½	.40	.40
July	.42½	.42½	.40	.40
August	.45	.42½	.40	.40
September	.45	.45	.40	.40
October	.45	.45	.40	.40
November	.45	.45	.40	.40
December	.45	.40	.40	.40
Year	.45	.40	.40	.40

COAL TAR COLORS

Acid Alkali Blue

In March, 1917, the price was $14 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$7.00	$7.00	$6.00	$6.00
February	7.00	6.50	6.00	6.00
March	6.50	6.50	6.00	6.00
April	7.00	6.50	6.00	6.00
May	7.00	7.00	6.00	6.00
June	7.00	7.00	6.00	6.00
July	7.00	7.00	6.00	6.00
August	7.00	7.00	6.00	6.00
September	7.00	7.00	5.00	5.00
October	6.50	6.50	5.00	4.50
November	6.50	6.50	4.50	4.50
December	6.00	6.00	4.50	4.50
Year	7.00	6.00	6.00	4.50

Acid Black, 10 B

In December, 1918, the price was $2 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.25	$1.25	$1.10	$1.10
February	1.25	1.25	1.10	1.05
March	1.25	1.25	1.05	1.00
April	1.25	1.25	1.00	1.00
May	1.25	1.25	1.00	1.00
June	1.25	1.25	1.00	1.00
July	1.25	1.25	1.00	1.00
August	1.25	1.25	1.00	1.00
September	1.25	1.25	1.00	1.00
October	1.25	1.25	1.00	1.00
November	1.25	1.25	1.00	1.00
December	1.10	1.10	1.00	1.00
Year	1.25	1.10	1.10	1.00

Acid Blue G

In January, 1918, the price was $12 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.50	$4.50	$3.60	$3.60
February	4.50	4.00	2.50	2.50
March	4.00	3.60	2.50	2.50
April	3.60	3.60	2.50	2.50
May	3.60	3.60	2.50	2.50
June	3.60	3.60	2.50	2.50
July	3.60	3.60	2.50	2.50
August	3.60	3.60	2.50	2.50
September	3.60	3.60	2.50	2.50
October	3.60	3.60	2.50	2.50
November	3.60	3.60	2.50	2.50
December	3.60	3.50	2.50	2.50
Year	4.50	3.50	3.60	2.50

Acid Cyanine B

In November, 1918, the price was $4.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.00	$3.50	$3.25	$3.25
February	3.50	3.50	3.25	3.25
March	3.50	3.25	3.25	3.10
April	3.25	3.25	3.25	3.25
May	3.25	3.25	3.25	3.25
June	3.25	3.25	3.25	3.25
July	3.25	3.25	3.25	3.25
August	3.25	3.25	3.25	3.25
September	3.25	3.25	3.25	3.25
October	3.25	3.25	3.25	3.25
November	3.25	3.25	3.25	3.25
December	3.25	3.00	3.25	3.25
Year	4.00	3.00	3.25	3.10

Acid Eosine B

In January, 1891, the price was 80c. per pound; October 18, 1901, 95c.; 1911, 85c.; 1918, January, $10.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$7.75	$7.75	$4.50	$4.50
February	7.00	5.00	3.90	3.90
March	5.00	4.50	3.90	3.85
April	4.50	4.50	3.90	3.90
May	4.50	4.50	3.90	3.75
June	4.50	4.50	3.75	3.75
July	4.50	4.50	3.90	3.90
August	4.50	4.50	3.75	3.75
September	4.50	4.50	3.75	3.75
October	4.50	4.50	3.75	3.75
November	4.50	4.50	3.75	3.75
December	4.50	4.25	3.75	3.75
Year	7.75	4.25	4.50	3.75

Acid Green G

In December, 1918, the price was $6.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$6.50	$5.00	$4.00	$4.00
February	5.00	4.50	4.00	4.00
March	4.50	4.50	4.00	3.25
April	4.00	4.00	4.00	4.00
May	4.00	4.00	4.00	4.00
June	4.00	4.00	4.00	4.00
July	4.00	4.00	4.00	4.00
August	4.00	4.00	4.00	4.00
September	4.00	4.00	3.00	3.00
October	4.00	4.00	3.00	3.00
November	4.00	4.00	3.00	3.00
December	4.00	4.00	3.00	3.00
Year	6.00	4.00	4.00	3.00

Acid Metanil Yellow

In August, 1918, the price was $2.40 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.35	$2.00	$1.25	$1.25
February	2.00	1.50	1.25	1.25
March	1.50	1.50	1.25	1.25
April	1.50	1.25	1.25	1.25
May	1.50	1.50	1.25	1.25
June	1.50	1.50	1.25	1.25
July	1.50	1.50	1.25	1.25
August	1.50	1.50	1.25	1.25
September	1.50	1.50	1.25	1.25
October	1.50	1.50	1.25	1.10
November	1.50	1.50	1.10	1.10
December	1.25	1.25	1.10	1.10
Year	2.35	1.25	1.25	1.10

Acid Orange A

In January, 1891, the price was $1.10 per pound; October 18, 1901, 85c.; 1911, 90c.; 1913, $1.20; 1917, August, $1.60.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.70	$0.70	$0.55	$0.55
February	.70	.65	.55	.55
March	.65	.65	.55	.55
April	.65	.65	.55	.55
May	.65	.65	.55	.55
June	.80	.65	.55	.55
July	.80	.80	.55	.55
August	.80	.80	.55	.55
September	.80	.80	.55	.55
October	.80	.80	.55	.55
November	.75	.75	.55	.55
December	.55	.55	.55	.55
Year	.80	.55	.55	.55

Acid Patent Blue

In November, 1917, the price was $22 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$30.00	$30.00	$7.00	$7.00
February	30.00	30.00	6.50	6.50
March	30.00	30.00	6.50	6.25
April	30.00	28.00	6.50	6.50
May	30.00	30.00	6.50	6.50
June	30.00	25.00	6.50	6.50
July	10.00	10.00	6.50	6.50
August	10.00	10.00	6.50	6.50
September	10.00	10.00	6.50	6.50
October	10.00	10.00	6.50	6.50
November	10.00	10.00	6.50	6.50
December	7.00	7.00	6.50	6.50
Year	30.00	7.00	7.00	6.25

Acid Wool Green S

In December, 1917, the price was $8.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$10.00	$10.00	$5.00	$5.00
February	10.00	7.00	3.75	3.75
March	7.00	6.75	3.75	3.50
April	6.00	5.75	3.75	3.75
May	6.00	5.50	3.75	3.75
June	5.50	5.50	3.75	3.75
July	5.50	5.50	2.50	2.50
August	5.50	5.00	2.50	2.00
September	5.00	5.00	2.00	2.00
October	5.00	5.00	2.00	2.00
November	5.00	5.00	2.00	2.00
December	5.00	5.00	1.60	1.60
Year	10.00	5.00	5.00	1.60

Auramine O, Basic

In December, 1918, the price was $5 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$3.50	$3.00	$4.00	$4.00
February	4.25	3.75	3.00	3.00
March	4.75	4.50	3.00	3.00
April	5.00	5.00	2.00	2.00
May	5.00	5.00	2.00	2.00
June	5.00	5.00	2.00	2.00
July	5.00	5.00	2.00	2.00
August	5.00	5.00	2.00	2.00
September	5.00	5.00	2.00	2.00
October	5.00	4.00	2.00	2.00
November	4.00	4.00	2.00	2.00
December	4.00	4.00	2.00	2.00
Year	5.00	3.00	4.00	2.00

Auramine O, Swiss

In January, 1919, the price was $5.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.50	$2.50	$4.00	$4.00
February	4.00	2.50	3.00	3.00
March	5.50	4.50	3.00	3.00
April	6.00	6.00	4.00	4.00
May	6.00	6.00	4.00	4.00
June	5.00	5.00	4.15	4.15
July	5.00	5.00	4.50	4.15
August	5.00	5.00	4.00	4.00
September	5.00	5.00	4.00	4.00
October	4.50	4.50	4.00	4.00
November	4.50	4.50	4.00	4.00
December	3.00	3.00	4.00	4.00
Year	6.00	2.50	4.50	3.00

Basic Bismarck Brown R

In January, 1891, the price was 55c. per pound; October 18, 1901, 60c.; 1911, 50c.; 1913, 45c.; 1918, February, $1.25.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$1.15	$1.10	$1.00	$1.00
February	1.10	1.05	.75	.75
March	1.05	1.05	.75	.75
April	1.00	1.00	.75	.75
May	1.00	1.00	.75	.75
June	1.00	1.00	.75	.75
July	1.00	1.00	.75	.75
August	1.00	1.00	.75	.70
September	1.00	1.00	.70	.70
October	1.00	1.00	.70	.70
November	1.00	1.00	.70	.70
December	1.00	1.00	.70	.70
Year	1.15	1.00	1.00	.70

Basic Fuchsine Crystals

In January, 1891, the price was $1 per pound; October 18, 1901, $1.85; 1911, $2.40; 1913, $3; 1918, March, $11.25.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.50	$5.50	$5.00	$5.00
February	5.50	5.50	5.00	4.25
March	5.50	5.50	4.25	4.25
April	5.50	5.50	3.60	3.60
May	5.50	5.50	3.60	3.60
June	5.50	5.50	3.60	3.60
July	5.50	5.50	3.50	3.50
August	5.50	5.50	3.50	3.50
September	5.50	4.25	3.50	3.50
October	5.00	4.25	3.50	3.50
November	5.00	5.00	3.50	3.50
December	5.00	5.00	3.50	3.50
Year	5.50	4.25	5.00	3.50

Basic Malachite Green Cryst

In January, 1918, the price was $11.75 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.00	$4.00	$3.25	$3.25
February	4.00	4.00	2.90	2.80
March	4.00	3.75	2.80	2.50
April	4.00	4.00	2.75	2.75
May	4.00	4.00	2.75	2.75
June	4.00	4.00	2.75	2.75
July	4.00	4.00	2.75	2.75
August	4.00	4.00	2.75	2.75
September	4.00	4.00	2.75	2.75
October	4.00	4.00	2.25	2.25
November	4.00	4.00	2.25	2.25
December	3.25	3.25	2.10	2.10
Year	4.00	3.25	3.25	2.10

Basic Methyl, Violet Base, Conc.

In December, 1917, the price was $8.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.00	$5.00	$3.75	$3.50
February	5.00	4.50	3.75	2.75
March	4.50	4.50	2.75	2.75
April	4.40	4.40	2.50	2.50
May	4.40	4.40	2.50	2.50
June	4.40	4.40	2.50	2.50
July	4.40	4.40	2.50	2.25
August	4.40	4.40	2.25	2.25
September	4.40	4.40	2.25	2.25
October	4.40	4.40	2.25	2.25
November	4.25	4.25	2.25	2.25
December	3.75	3.75	2.25	2.25
Year	5.00	3.75	3.75	2.25

Basic Methylene Blue (ex-Conc.)

In January, 1891, the price was $2.50 per pound; 1918, January, $4.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$4.25	$4.25	$2.75	$2.75
February	4.25	3.75	2.75	2.75
March	3.75	3.75	2.75	2.75
April	3.75	3.75	2.50	2.50
May	3.75	3.75	2.50	2.50
June	3.75	3.75	2.50	2.50
July	3.75	3.75	2.50	2.50
August	3.75	3.75	2.50	2.50
September	3.75	3.75	2.50	2.50
October	3.75	3.50	2.50	2.50
November	3.50	3.50	2.50	2.50
December	2.75	2.75	2.00	2.00
Year	4.25	2.75	2.75	2.00

Basic Rhodamine B

In December, 1918, the price was $14 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$6.90	$6.50	$3.50	$3.50
February	6.90	6.90	3.50	3.50
March	7.00	7.00	3.50	3.50
April	8.00	7.25	2.50	2.50
May	8.00	8.00	2.50	2.50
June	8.00	8.00	2.50	2.50
July	8.00	8.00	2.50	2.50
August	8.00	8.00	2.50	2.50
September	8.00	8.00	2.50	2.50
October	8.00	6.50	2.50	2.50
November	6.50	6.00	2.50	2.50
December	3.50	3.50	2.00	2.00
Year	8.00	3.50	3.50	2.00

Basic Safranine B

In January, 1918, the price was $7.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$5.00	$4.50	$4.00	$4.00
February	4.50	4.25	4.00	4.00
March	4.25	4.00	4.00	4.00
April	4.00	4.00	3.25	3.25
May	4.00	4.00	3.25	3.25
June	4.00	4.00	3.25	3.25
July	4.00	4.00	3.25	3.25
August	4.00	4.00	3.25	3.25
September	4.00	4.00	3.25	3.25
October	4.00	4.00	3.25	3.25
November	4.00	4.00	3.25	3.25
December	4.00	4.00	2.50	2.50
Year	5.00	4.00	4.00	2.50

Basic Victoria Blue Base

In January, 1918, the price was $15 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$7.25	$6.50	$5.75	$5.75
February	6.50	6.00	5.00	5.00
March	6.00	5.50	5.00	5.00
April	6.00	6.00	5.50	5.50
May	7.50	5.50	5.50	5.50
June	5.75	5.75	5.50	5.50
July	5.75	5.75	5.50	5.50
August	5.75	5.50	5.50	5.50
September	5.50	5.50	5.50	5.50
October	5.75	5.75	5.50	5.50
November	5.50	5.50	5.50	5.50
December	5.50	5.00	5.50	5.50
Year	7.50	5.00	5.73	5.00

Chrome Green

In January, 1918, the price was $3.75 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$3.50	$3.50	$3.50	$3.50
February	3.50	3.50	3.50	3.50
March	3.50	3.50	3.50	3.50
April	3.50	3.50	3.50	3.50
May	3.50	3.50	3.50	3.50
June	3.50	3.50	1.50	1.50
July	3.50	3.50	1.50	1.50
August	3.50	3.50	1.50	1.50
September	3.50	3.50	1.50	1.50
October	3.50	3.50	1.50	1.50
November	3.50	3.50	1.50	1.50
December	3.50	3.50	1.50	1.50
Year	3.50	3.50	3.50	1.50

Chrome Yellow G

In January, 1918, the price was $2 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.70	$0.60	$0.65	$0.60
February	.60	.60	.60	.60
March	.65	.60	.60	.60
April	.65	.65	.65	.65
May	.65	.65	.65	.65
June	.65	.65	.65	.65
July	.65	.65	.65	.65
August	.65	.65	.65	.65
September	.65	.65	.65	.65
October	.65	.65	.65	.65
November	.65	.60	.65	.65
December	.65	.60	.65	.65
Year	.70	.60	.65	.60

Direct Black

In November, 1917, the price was $3.50 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$0.90	$0.85	$0.95	$0.85
February	.90	.90	.85	.80
March	1.00	.90	.80	.80
April	1.05	1.05	.80	.80
May	1.05	1.05	.80	.80
June	1.05	1.05	.80	.80
July	1.05	1.05	.80	.75
August	1.05	1.05	.75	.75
September	1.05	1.05	.75	.75
October	1.05	.95	.75	.75
November	.95	.95	.75	.75
December	.95	.95	.75	.75
Year	1.05	.85	.95	.75

Direct Bordeaux

In January, 1918, the price was $2 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.00	$1.90	$1.90	$1.90
February	1.90	1.90	1.90	1.90
March	1.90	1.90	1.90	1.90
April	1.90	1.90	1.90	1.90
May	1.90	1.90	1.90	1.90
June	1.90	1.90	1.90	1.90
July	1.90	1.90	1.90	1.90
August	1.90	1.90	1.90	1.90
September	1.90	1.90	1.90	1.90
October	1.90	1.90	1.90	1.90
November	1.90	1.90	1.75	1.75
December	1.90	1.90	1.75	1.75
Year	2.00	1.90	1.90	1.75

Direct Congo Red 4-B (Conc.)

In January, 1918, the price was $2.25 per pound.

	Per pound			
	1920.		1921.	
	H.	L.	H.	L.
January	$2.00	$2.00	$1.00	$1.00
February	2.00	1.25	1.00	1.00
March	1.25	1.05	1.00	1.00
April	1.00	1.00	.90	.90
May	1.00	1.00	.90	.90
June	1.00	1.00	.90	.90
July	1.00	1.00	.90	.90
August	1.00	1.00	.90	.90
September	1.00	1.00	.90	.90
October	1.00	1.00	.90	.90
November	1.00	1.00	.90	.90
December	1.00	1.00	.90	.90
Year	2.00	1.00	1.00	.90

W. H. Barber Company

3650 S. Homan Ave.
Chicago

1501 Franklin Ave., S. E.
Minneapolis, Minn.

Wholesale Jobbers and Marketers

Naval Stores, Alcohols
Linseed Oil
Petroleum Products, Etc.

Being the largest and best equipped concern of our kind in the UNITED STATES, we are placed in advantageous position to quote attractive prices and make prompt delivery. It is to the interest of all purchasers of NAVAL STORES, (Turpentine, Rosin, Pine Oil, Tar Oil, Rosin Oil, Pine Tar), Denatured Alcohol (all formulas), Linseed Oil, Petroleum Products, Etc., to secure our prices before buying.

Give us a trial on your next order.

Consider the Company Behind the Sale

Direct Green B

In January, 1918, the price was $2.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.75	$1.50	$1.50	$1.50
February	1.50	1.50	1.50	1.50
March	1.50	1.50	1.50	1.50
April	1.50	1.25	1.50	1.45
May	1.50	1.50	1.45	1.45
June	1.50	1.50	1.25	1.25
July	1.50	1.50	1.25	1.25
August	1.50	1.50	1.25	1.25
September	1.50	1.50	1.25	1.25
October	1.50	1.50	1.25	1.25
November	1.50	1.50	1.25	1.25
December	1.50	1.50	1.25	1.25
Year	1.75	1.25	1.50	1.25

Direct Orange

In January, 1918, the price was $2.50 per pound.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.25	$1.10	$1.50	$1.50
February	1.25	1.25	1.50	1.50
March	1.50	1.25	1.50	1.50
April	1.50	1.50	1.35	1.25
May	1.50	1.50	1.25	1.25
June	1.50	1.50	1.00	1.00
July	1.50	1.50	1.00	.90
August	1.50	1.50	.90	.90
September	1.50	1.50	.90	.90
October	1.50	1.50	.90	.90
November	1.50	1.50	.90	.90
December	1.50	1.50	.90	.90
Year	1.50	1.10	1.50	.90

Patent Blue, Swiss

In January, 1918, the price was $20.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$27.00	$27.00	$10.00	$10.00
February	27.00	22.50	10.00	10.00
March	25.00	22.50	10.00	10.00
April	25.00	25.00	10.00	10.00
May	25.00	25.00	10.00	10.00
June	25.00	25.00	10.00	10.00
July	25.00	25.00	10.00	10.00
August	25.00	25.00	10.00	10.00
September	25.00	25.00	10.00	10.00
October	25.00	18.00	10.00	10.00
November	18.00	18.00	10.00	10.00
December	10.00	10.00	10.00	10.00
Year	27.00	10.00	10.00	10.00

Rhodamine B, Swiss

In January, 1918, the price was $80 per pound.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$7.00	$7.00	$5.00	$5.00
February	7.25	7.00	5.00	5.00
March	7.25	7.25	5.00	5.00
April	7.50	7.50	5.00	5.00
May	7.50	7.50	5.00	5.00
June	7.50	7.50	5.00	5.00
July	7.50	7.50	5.00	5.00
August	7.50	7.50	5.00	5.00
September	7.50	7.50	5.00	5.00
October	7.50	6.00	5.00	5.00
November	6.00	6.00	5.00	5.00
December	5.00	5.00	5.00	5.00
Year	7.50	5.00	5.00	5.00

Sulphur Green

In January, 1918, the price was $1.50 per pound.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$1.00	$1.00	$1.00	$1.00
February	1.00	1.00	1.00	1.00
March	1.00	1.00	1.00	1.00
April	1.00	1.00	1.00	1.00
May	1.00	1.00	1.00	1.00
June	1.00	1.00	1.00	1.00
July	1.00	1.00	1.00	1.00
August	1.00	1.00	1.00	1.00
September	1.00	1.00	1.00	1.00
October	1.00	1.00	1.00	1.00
November	1.00	1.00	1.00	1.00
December	1.00	1.00	1.00	1.00
Year	1.00	1.00	1.00	1.00

Sulphur Yellow

In January, 1918, the price was 90c. per pound.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.90	$0.90	$1.00	$1.00
February	.95	.90	1.00	1.00
March	.95	.95	1.00	1.00
April	1.00	1.00	1.00	.90
May	1.00	1.00	.90	.90
June	1.00	1.00	.85	.85
July	1.00	1.00	.85	.85
August	1.00	1.00	.85	.85
September	1.00	1.00	.85	.85
October	1.00	1.00	.85	.85
November	1.00	1.00	.85	.85
December	1.00	1.00	.85	.85
Year	1.00	.90	1.00	.85

Union Navy Blue

In January, 1918, the price was $3.75 per pound.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$3.00	$3.00	$2.25	$2.25
February	3.00	2.50	2.25	2.25
March	2.50	2.25	2.25	2.25
April	2.25	2.25	2.25	2.00
May	2.25	2.25	2.00	2.00
June	2.25	2.25	2.25	2.25
July	2.25	2.25	2.25	2.25
August	2.25	2.25	2.25	2.25
September	2.25	2.25	2.25	2.25
October	2.25	2.25	2.25	2.25
November	2.25	2.25	2.25	2.25
December	2.25	2.25	2.25	2.25
Year	3.00	2.25	2.25	2.00

Vat Indigo, 20% Paste

In October, 1901, the price was 38c. per pound; October 18, 1911, 35c.; 1913, 42c.; 1917, $1.50.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$0.85	$0.85	$0.95	$0.95
February	.85	.85	.75	.65
March	.85	.85	.65	.65
April	.85	.85	.85	.65
May	.85	.85	.65	.65
June	.85	.85	.85	.85
July	.95	.95	.85	.85
August	.95	.95	.85	.60
September	.95	.95	.60	.60
October	.95	.95	.60	.60
November	.95	.95	.60	.60
December	.95	.95	.60	.60
Year	.95	.85	.95	.60

Wool Green S, Swiss

In January, 1918, the price was $7.

	Per pound— 1920. H.	L.	1921. H.	L.
January	$9.00	$9.00	$4.00	$4.00
February	9.00	6.75	4.00	4.00
March	6.50	6.00	4.00	4.00
April	6.00	6.00	4.00	4.00
May	6.00	6.00	4.00	4.00
June	6.00	6.00	4.00	4.00
July	4.00	4.00	4.00	4.00
August	4.00	4.00	4.00	4.00
September	4.00	4.00	4.00	4.00
October	4.00	4.00	4.00	4.00
November	4.00	4.00	4.00	4.00
December	4.00	4.00	4.00	4.00
Year	9.00	4.00	4.00	4.00

NITROGEN FERTILIZERS

Dried Blood

On December 10, 1879, the price was $2.37½@2.45 per unit; 1881, $3.75@3.85; 1891, $1.95@2.05; 1901, $2.30; 1911, $3.05; 1913, $2.95; March, 1920, $8.75.

	Per unit— 1920. H.	L.	1921. H.	L.
January	$7.85	$7.50	$4.00	$3.75
February	8.00	7.50	4.00	3.50
March	8.75	8.75	3.50	3.00
April	8.50	8.25	3.00	2.90
May	8.50	8.25	3.00	2.90
June	8.25	8.00	3.00	3.00
July	8.25	8.00	3.00	2.90
August	8.00	7.50	2.90	2.75
September	7.75	7.50	3.00	2.90
October	7.00	6.00	4.00	3.25
November	6.00	4.50	3.40	3.25
December	4.75	4.00	3.75	3.40
Year	8.75	4.00	4.00	2.75

Hoofmeal

On July 4, 1904, the price was $2.25@2.30 per unit; October, 18, 1911, $2.60@2.70; 1913, $2.95; 1920, May, $7.50.

(F. o. b. Chicago.)

	Per unit— 1920. H.	L.	1921. H.	L.
January	$7.00	$7.00	$2.90	$2.90
February	7.00	7.00	2.90	2.90
March	7.00	7.00	2.50	2.25
April	7.50	7.00	2.50	2.25
May	7.50	6.75	2.25	2.00
June	7.25	6.75	2.10	1.75
July	7.25	6.75	2.10	1.75
August	7.25	6.75	2.10	1.75
September	7.25	6.75	2.25	2.10
October	6.75	6.00	2.50	2.25
November	5.00	4.00	2.25	2.00
December	4.00	2.90	2.25	2.00
Year	7.50	2.90	2.90	1.75

Fish Scrap, Dry

On January 6, 1902, the price was $24.50 @25 per unit; October 18, 1911, $3.25 and 10c.; 1913, $3.10 and 10c.; 1917, November, $6.67½ and 10c.

	1920. Per unit— High.		Low.		1921. Per unit— High.		Low.	
January	$7.40	& $0.10	$7.25	& $0.10	$3.75	& $0.10	$3.50	& $0.10
February	Nominal		Nominal		3.75	& .10	3.50	& .10
March	Nominal		Nominal		3.50	& .10	3.50	& .10
April	Nominal		Nominal		3.50	& .10	3.00	& .10
May	Nominal		Nominal		3.25	& .10	3.00	& .10
June	7.50	& .10	7.50	& .10	3.00	& .10	3.00	& .10
July	7.50	& .10	7.50	& .10	3.00	& .10	2.40	& .10
August	7.50	& .10	7.50	& .10	2.60	& .10	2.40	& .10
September	7.50	& .10	6.00	& .10	3.00	& .10	2.60	& .10
October	6.00	& .10	5.80	& .10	3.50	& .10	3.25	& .10
November	5.30	& .10	3.90	& .10	3.25	& .10	3.00	& .10
December	3.80	& .10	3.50	& .10	3.25	& .10	3.25	& .10
Year	7.50	& .10	3.50	& .10	3.75	& .10	2.40	& .10

Fish Scrap, Wet

On January 6, 1902, the price was $13@13.50 per unit; October 18, 1911, $2.70 and 50c.; 1919, January, $7 and 75c.

	1920. Per unit— High.		Low.		1921. Per unit— High.		Low	
January	$5.50	& $0.50	$5.50	& $0.50	$4.00	& $0.50	$4.00	& $0.50
February	Nominal		Nominal		Nominal		Nominal	
March	Nominal		Nominal		Nominal		Nominal	
April	Nominal		Nominal		Nominal		Nominal	
May	6.50	& .50	6.50	& .50	Nominal		Nominal	
June	6.50	& .50	6.50	& .50	Nominal		Nominal	
July	7.00	& .50	6.50	& .50	Nominal		Nominal	
August	6.50	& .50	6.50	& .50	Nominal		Nominal	
September	6.50	& .50	5.50	& .50	2.50	& .50	2.25	& .50
October	5.50	& .50	5.50	& .50	2.50	& .50	2.50	& .50
November	4.90	& .50	4.50	& .50	2.75	& .50	2.25	& .50
December	4.50	& .50	4.00	& .50	2.50	& .50	2.50	& .50
Year	7.00	& .50	4.00	& .50	2.75	& .50	2.25	& .50

Nitrate of Soda

On September 23, 1874, the price was 2½@2¾c. per 100 pounds; October 18, 1881, $3.25; 1891, $2.15@2.20; 1901, $1.90@1.92½; 1911, $2.25@2.27½; 1913, $2.95, 1918, May, $5.50.

	Per hundredweight— 1920. H.	L.	1921. H.	L.
January	$3.25	$3.05	$2.90	$2.75
February	3.70	3.45	2.90	2.80
March	3.90	3.85	2.75	2.60
April	3.90	3.90	2.75	2.60
May	3.90	3.82½	2.75	2.60
June	4.10	3.82½	2.70	2.50
July	4.00	3.85	2.25	2.00
August	3.90	3.65	2.15	2.00
September	3.70	3.35	2.20	2.15
October	2.90	3.35	2.40	2.20
November	3.00	2.90	2.25	2.15
December	2.90	2.75	2.35	2.25
Year	4.10	2.75	2.90	2.00

Sulphate of Ammonia

On March 5 1873, the price was 7c. per 100 pounds; October 18, 1881, $4.87½@5; 1891, 83@3.05; 1901, $2.77½@2.80; 1911, $3.20; 1913, $3.10; 1918, April, $7.85.

(Double bags, f. a. s., New York.)

	Per hundredweight— 1920. H.	L.	1921. H.	L.
January	$7.15	$6.40	$3.35	$3.25
February	7.50	6.75	3.35	3.20
March	7.50	7.00	3.20	2.75
April	7.25	7.00	3.00	2.75
May	7.25	7.15	2.75	2.65
June	7.15	7.00	2.50	2.25
July	7.00	6.00	2.25	2.15
August	6.00	5.85	2.15	2.00
September	5.60	5.50	2.25	2.15
October	5.00	4.75	2.60	2.50
November	4.65	4.00	2.60	2.50
December	3.75	3.50	2.60	2.55
Year	7.50	3.50	3.25	2.00

Tankage, Concentrated

(F. o. b. Chicago.)

On September 4, 1889, the price was $2.27½ @2.30 per unit; October 18, 1891, $1.75@1.80; 1901, $1.20; 1911, $2.70; 1913, $2.45; 1920, July, $7.25.

	Per unit— 1920. H.	L.	1921. H.	L.
January	$6.25	$6.25	$2.65	$2.65
February	6.25	6.25	2.65	2.50
March	6.25	6.25	2.50	2.00
April	6.25	6.00	2.25	2.25
May	7.25	6.25	2.25	2.25
June	7.25	7.00	2.25	1.75
July	7.25	7.25	2.00	1.75
August	7.25	7.25	2.00	1.75
September	7.25	6.75	2.25	2.00
October	6.75	6.75	2.25	2.25
November	4.25	3.50	2.25	2.25
December	3.50	2.65	3.00	2.50
Year	7.25	2.65	3.00	1.75

Tankage, Ground, 9 & 20 Per Cent.

(F. o. b. Chicago.)

	1920. Per unit— High.		Low.		1921. Per unit— High.		Low.	
January	$7.25	& $0.10	$7.25	& $0.10	$2.90	& $0.10	$2.80	& $0.10
February	7.50	& .10	7.50	& .10	2.90	& .10	2.85	& .10
March	8.00	& .10	8.00	& .10	2.75	& .10	2.75	& .10
April	8.00	& .10	8.00	& .10	2.75	& .10	2.75	& .10
May	8.00	& .10	8.00	& .10	2.75	& .10	2.75	& .10
June	7.50	& .10	7.50	& .10	2.50	& .10	2.50	& .10
July	7.75	& .10	7.50	& .10	2.00	& .10	2.00	& .10
August	7.75	& .10	7.50	& .10	2.00	& .10	2.00	& .10
September	7.25	& .10	7.00	& .10	2.00	& .10	2.00	& .10
October	7.25	& .10	6.00	& .10	3.00	& .10	2.75	& .10
November	4.00	& .10	3.75	& .10	2.75	& .10	2.50	& .10
December	3.80	& .10	3.50	& .10	3.25	& .10	3.25	& .10
Year	8.00	& .10	3.50	& .10	3.25	& .10	2.50	& .10

PHOSPHATES

Acid Phosphate

On January 7, 1885, the price was $12@15 per ton; October 18, 1891, $14.50@15; 1901, $9.60@10; 1911, $8@8.75; 1913, $7.20@8; 1920, June, $21.

	Per ton— 1920. H.	L.	1921. H.	L.
January	$19.75	$19.75	$18.00	$15.00
February	19.75	19.75	15.00	15.00
March	19.00	19.00	15.00	15.00
April	19.00	18.50	15.00	14.00
May	18.50	18.50	14.00	13.00
June	20.00	18.50	13.00	11.50
July	21.00	20.00	12.00	12.00
August	21.00	21.00	12.00	12.00
September	21.00	21.00	12.50	12.00
October	21.00	20.00	12.00	10.50
November	20.00	18.00	10.50	10.00
December	19.00	18.00	10.50	10.00
Year	21.00	18.00	18.00	10.00

Bones, Raw, Ground

On July 18, 1880, the price was $28 per ton; October 18, 1881, $35@37; 1891, $25@28; 1901, $20@21; 1911, $28.50@30; 1913, $28@30; 1920, July, $62.50.

	Per ton— 1920. H.	L.	1921. H.	L.
January	$48.00	$48.00	$40.00	$40.00
February	52.00	48.00	40.00	40.00
March	52.00	52.00	35.00	32.50
April	52.00	52.00	35.00	30.00
May	52.00	52.00	35.00	30.00
June	52.00	52.00	32.00	30.00
July	62.50	60.00	32.00	30.00
August	62.50	60.00	30.00	29.00
September	62.50	55.00	29.00	29.00
October	55.00	50.00	29.00	29.00
November	50.00	45.00	29.00	29.00
December	45.00	40.00	31.00	29.00
Year	62.50	40.00	40.00	29.00

Bones, Rough, Hard

On September 1, 1880, the price was $20@20.50 per ton; October 18, 1881, $25; 1891, $20@23; 1901, $19.50; 1911, $28.50@30; 1913, $22.50@24; 1920, August, $82.

	Per ton— 1920. H.	L.	1921. H.	L.
January	$32.00	$30.00	$32.00	$30.00
February	32.00	30.00	32.00	30.00
March	32.00	30.00	32.00	30.00
April	32.00	30.00	32.00	26.00
May	32.00	30.00	32.00	26.00
June	62.00	60.00	27.00	26.00
July	72.00	70.00	27.00	26.00
August	82.00	80.00	27.00	25.00
September	82.00	50.00	27.00	25.00
October	50.00	50.00	27.00	25.00
November	55.00	40.00	27.00	25.00
December	40.00	30.00	27.00	25.00
Year	82.00	30.00	32.00	25.00

Bones, Soft, Steamed, Unground

On July 4, 1904, the price was $18@19 per ton; October 18, 1911, $21.50@22; 1913, $21.50@22; 1920, September, $40.

	Per ton— 1920. H.	L.	1921. H.	L.
January	$27.00	$26.00	$28.00	$28.00
February	27.00	26.00	29.00	28.00
March	27.00	26.00	25.00	18.00
April	27.00	26.00	18.00	16.00
May	27.00	26.00	18.00	16.00
June	27.00	26.00	18.00	16.00
July	27.00	26.00	18.00	16.00
August	27.00	26.00	18.00	15.00
September	40.00	26.00	18.00	15.00
October	38.00	38.00	18.00	15.00
November	40.00	28.00	18.00	15.00
December	28.00	28.00	15.00	13.00
Year	40.00	26.00	29.00	13.00

Phosphate Rock, Florida Land Pebble, 68 Per Cent.

On June 8, 1881, the price (grade not specified) was $10@14 per ton; October 18, 1881, $9.50; 1891, $6.50@7.50; 1901, $7@7.50; 1911, $3.70@3.80; 1913, $3@3.25; 1920, July, $12.

	Per ton— 1920. H.	L.	1921. H.	L.
January	Nominal		Nominal	
February	$6.85	$6.85	$9.50	$9.00
March	6.85	6.85	9.50	9.00
April	6.85	6.85	9.00	4.50
May	6.85	6.85	6.00	4.50
June	10.50	6.85	6.00	4.50
July	11.50	11.00	6.00	4.50
August	11.50	11.00	6.00	5.00
September	12.00	10.75	6.00	5.00
October	11.00	11.00	6.00	5.00
November	11.50	10.50	5.00	4.50
December	9.50	9.00	4.50	3.25
Year	12.00	6.85	9.50	3.25

POTASHES

Muriate, 80@85 Per Cent., Basis 80 Per Cent.

On August 13, 1879, the price was $1.40@1.42 per unit; October 18, 1881, 73@76c.; 1891, 74@80c.; 1901, 76.25@78.80c.; 1911, 85@90c.; 1913, 80c.; 1918, January, $7.30.

	Per unit— 1920. H.	L.	1921. H.	L.
January	$3.00	$2.75	$1.80	$1.50
February	3.00	2.85	1.50	1.50
March	2.85	2.50	1.50	1.15
April	2.55	2.50	1.15	1.05
May	2.55	2.50	1.05	.95
June	2.40	2.40	1.00	.90
July	2.40	2.40	.95	.90
August	2.40	2.40	.90	.85
September	2.40	2.25	.85	.85
October	2.25	2.00	.85	.85
November	2.25	1.85	.85	.75
December	2.25	1.80	.75	.70
Year	3.00	1.80	1.80	.70

Sulphate, 90@95 Per Cent., Basis 90 Per Cent.

On October 3, 1888, the price was $2.25@2.35 per unit; October 18, 1891, 83c.; 1901, 85c.; 1911, 94c.; 1913, 94c.; 1918, January, $8.

	Per unit— 1920. H.	L.	1921. H.	L.
January	Nominal		$2.85	$2.15
February	Nominal		2.15	2.15
March	$4.00	$4.00	2.15	2.00
April	4.00	4.00	2.00	1.50
May	4.00	3.50	1.90	1.50
June	3.50	3.50	1.50	1.35
July	Nominal		1.35	1.25
August	3.50	3.50	1.25	1.20
September	3.10	2.85	1.25	1.20
October	2.85	2.85	1.25	1.20
November	2.85	2.85	*47.50	*47.50
December	2.85	2.85	*47.50	*45.00
Year	4.00	2.85	*140.00	*45.00

*Per ton.

PYRITES

Spanish, 48@50 Per Cent. Sulphur

On January 2, 1905, the price was 10@11c. per unit; October 18, 1911, 10@10½c.; 1913, 10½@11c.; 1917, December, 25c.

	Per unit— 1920. H.	L.	1921. H.	L.
January	$0.17	$0.16½	$0.15	$0.14
February	.17½	.16½	.15	.14
March	.17½	.16½	.15	.14
April	.17½	.16½	.15	.14
May	.18½	.18	.15	.14
June	.18½	.18	.15	.14
July	.18½	.18	.14	.13
August	.18	.17	.14	.13
September	.17	.13	.13	.13
October	.13½	.13	.13	.13
November	.14	.13½	.13	.13
December	.16	.13½	.13	.13
Year	.18½	.13	.15	.13

Norwegian Cod Liver Oil

The cod liver oil market in Norway in 1921 commenced under difficult circumstances. The stocks from the year before were excessive (between 20,000 and 25,000 barrels), demand from abroad was very dull, and the rates of exchange for foreign money had fallen considerably (pounds sterling being not much over par), while, on the other hand, the production expenses were practically unaltered.

They were also disappointed during the past year in their hope to renew the very low value of the mark. Some quantities of industrial oils were sold to that country, but no transaction in medicinal cod liver oil of any importance was closed until the month of August, when suddenly the demand became very brisk, and a quantity of about 3,500 barrels was sold during the months of August, September and October. This is the more remarkable, as the rate of exchange for the German Mark during the period was the lowest possible.

The quotations in foreign money (dollars and pounds sterling) were constantly pressed during the year, but owing to the rise in the rates of exchange, prices were in reality, from our point of view, unchanged, until, at the end of the year, the Norwegian Red Cross came into the market for the purchase of about 3,000 barrels. This caused a temporary rise in quotations, as the general opinion was that the Red Cross intended to buy more considerable parcels, and there was really reason to believe so, when suddenly any further purchase was stopped, and prices have again got a slowly downward tendency.

The total impression of the year is not as bad as expected; the stocks are practically exhausted, and the prospects for the new year are thus quite bright. It is only to be hoped that the rate of exchange will stabilize on a more normal level, for it cannot be denied that the transactions in 1921 have merely been based on a speculation in value.

GENERAL VIEW OF CATCH

	Hectoliters.	Exportation, Barrels.	Prices.	
1903	2,952	6,500	$120.00	$100.00
1904	28,525	19,300	57.00	37.00
1905	41,907	37,800	30.00	18.00
1906	42,908	37,430	15.00	19.00
1907	46,889	38,135	25.00	17.00
1908	59,104	48,000	13.50	15.00
1909	50,460	39,850	14.00	16.00
1910	41,024	36,991	25.00	26.00
1911	43,318	39,332	45.00	25.00
1912	76,211	61,481	20.00	15.00
1913	48,263	39,400	30.00	20.00
1914	57,171	53,083	15.00	20.00
1915	52,918	....	40.00	80.00
1916	60,068	....	80.00	155.00
1917	37,129	....	0.70*	
1918	20,507	....	0.70*	
1919	37,612	35,639	75.00	100.00
1920	58,951	42,736	70.00	65.00
1921	57,388	58,013	14.50	20.00

* Per kilo maximal price.

STOCKS

Purchased for Cash or on a Secure Marginal Basis

Standard Oils — *Independent Oils*

Industrials - *Mining Issues*

Bonds — *Unlisted Securities*

Analytical reports furnished promptly on active securities of all character. Our statistical department is equipped to supply the latest and most important data on all stocks and bonds
Refer to Dept. DR. 22

L. L. Winkelman & Co.

62 BROAD STREET, NEW YORK

DIRECT PRIVATE WIRES TO VARIOUS MARKETS AND BRANCH OFFICES

BRANCH OFFICES

PHILADELPHIA, PA.
AKRON, O.
UNIONTOWN, PA.
BALTIMORE, MD.
CHICAGO, ILL,
PITTSBURGH, PA.
CLEVELAND, O.
MARIETTA, O.
PARKERSBURG, W. VA.
ZANESVILLE, O.

BONDS

H. S. BINSWANGER, President
M. I. BINSWANGER, Vice-Prest.

M. S. BINSWANGER, Secretary
R. A. BINSWANGER, Treasurer

RICHMOND
525 EAST BYRD ST 304-320 SOUTH SIXTH ST

ESTABLISHED 1872

BINSWANGER & Co.

(INCORPORATED)

RICHMOND, VA.
AND
MEMPHIS, TENN.

MEMPHIS
Nos 645-655 UNION AVENUE

SHEET GLASS PLATE

This year marks the Fiftieth Anniversary of our business and we take pardonable pride in the accomplishments and progress which we have attained from a small local business to a position of importance in the industry.

Samuel Binswanger, deceased, father of the present officers and founder of the business, suffered in common with most Virginians as result of the War between the States, the loss of practically all possessions; but with indomitable will and energy in 1872 established the present business at Richmond. In the year 1906 the Branch Plant at Memphis, Tennessee, was established.

In these Fifty Years we have formed many strong and enduring friendships for which we are truly grateful and we express our deep appreciation thereof and for the confidence reposed in us by patrons, friends and business affiliations generally.

It is our purpose with earnestness, energy and a conscientious fulfillment of every obligation, to continue to merit confidence and favors, and to serve to an ever larger field of usefulness.

Vegetable Oil Industry of Great Britain

The vegetable oil industry of the United Kingdom in 1921 suffered equally with many other industries from the trade depression which ruled during the greater part of the year both in England and in Europe generally and the later months, especially from the collapse of the German and other exchanges. The gross imports of oil seeds, oil nuts and kernels in the twelve months ending December 31 amounted to 1,358,345 gross tons, against 1,495,426 tons in 1920, a decline of 137,081 tons equal to 9 per cent. Of this, 61,339 tons were exported again, or 4.5 per cent., against 46,034 tons in 1920, or 3 per cent. A special feature was the large arrival of linseed, viz., 469,791 tons, of which 401,978 tons, or 85.5 per cent., was derived from Argentina. This was an increase of over 80,000 tons on the 1920 import, and kept the mills crushing linseed pretty evenly occupied throughout the year. Cottonseed, mostly from Egypt and India, at 376,522 tons, was, however, 66,320 tons behind owing to the very small proportion from India. Nuts and kernels at 394,638 tons were also behind the previous year to the extent of 83,000 tons, due to the lessened arrivals of palm kernels and ground nuts. No oil seeds were grown in the United Kingdom beyond a matter of 500 tons of linseed, which found its way into the mills at Hull and gave an oil quite satisfactory in quality and regarded as a first-class substitute for oil from Russian linseed. The estimated domestic production of vegetable oils in Britain in 1921 and the two preceding years is as under:—

	1921 gr. tons	1920 gr. tons	1919 gr. tons
Linseed oil.....	154,400	125,000	173,600
Cotton oil.....	62,754	75,300	77,600
Rapeseed oil.....	9,413	9,260	26,100
Castor oil.....	5,557	4,325	6,000
Other seed oils..	10,543	8,000	4,000
Palm kernel oil..	100,193	128,200	138,000
Ground nut oil...	33,733	49,200	43,000
Coconut oil.....	22,000	24,700	40,800
Other nut oils...	690	2,000	6,000
Total	399,283	425,980	514,500

Reviewing the trade conditions, it may be said that the year was not without difficulties. It opened with strained financial conditions and serious failures among those engaged in the industry, and had only begun to recover when a prolonged stoppage in the coal industry from April to June formed another severe setback. Mills, in order to keep going, had to hastily convert their plants to burn oil fuel instead of coal. Emerging from this trial fairly satisfactorily, business improved greatly and a good trade in oil was done on export account right along to October, when the break in the European exchanges took place and induced a condition of semi-stagnation, which was only relieved by heavy purchases of linseed oil for export to the United States. Values fluctuated, but not to the same extent as in 1920, and the tendency for the most part was in a downward direction, some articles actually being at one time below the five-years pre-war parity, notably linseed oil. The highest and lowest prices for seed on spot and oil ex-Hull mill in 1921, in comparison with 1920, are shown in the following table:—

	1921 High. £ s.	1921 Low. £ s.	1920 High. £ s.	1920 Low. £ s.
Linseed, Plate...	23 0	13 10	54 0	18 10
Linseed, Calcutta	24 0	15 10	55 10	21 0
Cottonseed, Egyptian	15 10	10 15	33 0	13 10
Cottonseed, Bombay	12 10	8 0	25 10	8 10
Rapeseed, Toria..	22 15	17 0	54 10	23 10
Groundnuts, Indian	29 10	14 15	60 0	20 0
Groundnuts, undecorticated ...	25 0	12 15	... ..	... ..
Palm kernels....	26 0	17 10	49 5	26 0
Soya beans.....	17 0	11 5	35 0	18 0
Linseed oil.....	39 0	21 0	124 10	33 0
Crude cotton oil, Egypt	48 0	23 15	118 10	40 0
Crude cotton oil, Bombay	40 0	23 0	112 10	37 0
Refined cotton oil, soap	48 0	28 0	118 10	45 0
Refined cotton oil, Edible	53 0	30 10	128 0	45 0
Crude rape oil...	66 0	30 0	127 0	65 0
Crude groundnut oil	54 0	32 0	135 0	47 10
Crude palm kernel oil	60 0	37 0	115 0	66 0
Crude soya oil...	46 0	25 0	117 0	60 0
Linseed cakes....	22 0	11 10	25 0	17 10
Cotton cakes, Egyptian	12 0	8 10	20 0	10 10

With regard to linseed oil, the domestic consumption was most disappointing throughout owing to the depression in the paint, varnish, linoleum and oil cloth industries. Had it not been for the demand from European countries in the first six or eight months and from America during the latter half of the year, it is clear that prices would have fallen very much lower than they did and that crushers would have had difficulty in finding adequate outlet for their production of this article. The extreme range of values was about £18 per ton, and the average spot price ex Hull mill, naked, £30 17s. 8d. per ton. Owing to a heavy failure the market was very disorganized at the beginning of the year and £39 was the first price paid in January, but £35 was taken the next day. Within a day or two there was an improvement to £38, a decline following and January closing with £29 accepted for spot oil. By the middle of February the price had again advanced to £33 10s., after which the market gradually sagged and £21 5s., the lowest price of the year, was marked on or about April 5. It seemed now to be generally felt that the decline was much overdone, and the trade and speculators came along as keen buyers with the Continent, and a steady and prolonged advance carried the figure up to £39 by the middle of September. At this time it became known that the exportable surplus of linseed from the Argentine would be 200,000 tons more than the market had been led to anticipate, and depression set in. Large American orders continually came in, otherwise the decline would have been much more pronounced. The third week in October saw £25 per ton accepted, after which the market steadied and onward fluctuations were only of small dimensions and trade within narrow limits. At the close of the year business was done at Hull at £26 15s. for prompt delivery. An interesting feature of the business with the United States was the introduction of shipping the linseed oil in bulk in tank steamers, which promises to be a permanent feature development in the vegetable oil trade. As will be seen from the figures appended, the British exports of linseed oil were much in excess of 1920, and included between 18,000 and 20,000 tons shipped to North America.

After the heavy decline in 1920 the market for soap-making refined cotton oil was generally a very quiet one, but demand was more or less good throughout the year, with one or two periods of scarcity of supply, notably in September, when ordinary refined advanced to £48 per ton naked ex Hull mill, as against £28 quoted in April, the lowest of the year. From September the price gradually declined, £36 10s. being recorded in November and £37 10s. in December, from which it rallied to £39 at the close. Edible refined ranged between £53 and £30 10s., and was only in moderate demand. Egyptian crude also had its ups and downs, with a range of about £25 per ton, but it never fell so low as linseed oil, the highest being £48 and the lowest £23 15s., and the average for the year £35 per ton. In consequence of the poor imports of Indian linseed, Bombay crude was very rarely on offer, but this was balanced by the apathy of soap manufacturers, who apparently were using other oils as ingredients.

Thanks to heavier arrivals of soya beans from Manchuria, the production of soya bean oil increased, but it was only infinitesimal when compared with the huge imports before the war, and when the Manchurian mills at Dairen had not developed the crushing of the oil themselves and exporting it in bulk as is now the case. As a fact, the market is now ruled to a great extent by the shipments from the East in bulk, in tank steamers bringing in many cases 5,500 to 6,000 tons. Thus it has not been profitable to crush the beans except at prices favorable to them, and generally much less than crushers in Europe were prepared to give. Nevertheless English crude, produced almost solely by the extracting mills, was in steady demand and a fairly big export trade was done. The lowest price during the year was recorded in February when £25 was taken. From this point the market gradually hardened, £31 being the nearest figure during March and April. In early July many contracts were made for deliveries to the end of the year, both soap-makers and speculators buying. The price moved up until £47 was paid in October, when a decline commenced, £32 10s. being touched in November and the year closing at £35. The average price of English crude was £35 10s. per ton, ex Hull mill.

Rapeseed oil opened the year at £64 and during the first month eased off to £50 per ton, which price was practically maintained during the succeeding eight months. In October the price fell another £5 and still further to £45 in December. Most of the business was done by extractors. The demand, however, was irregular, but the export houses succeeded in finding a fairly ready sale on the continent of Europe and in America. Deodorized rape oil was as a rule too dear to compete with soya and other edible oils.

Castor oil, which is extensively used as a lubricant in the textile industries, and during the war was par-excellence the oil for aeroplane engines, felt the effects of the stagnation in those industries. The demand, although evenly distributed over the year, was poor, and a large increase in consumption is necessary before it reaches pre-war level. So far as the export trade is concerned, the rates of exchange curtailed the activities of foreign buyers to a considerable extent. The major portion of the business done was for prompt and near delivery, consumers not appearing anxious to take advantage of the lower prices for which oil for forward delivery can generally be bought. Both first pressure and second pressure of foreign origin were offered freely during the year, but the superiority of the domestic article is well known, and it is considered doubtful if the imported castor oil found a ready sale, even when offered at a big discount. English prices fluctuated very little. First pressure opened the year at £55 per ton (barrels included), but fell to £45 at the end of January, when bottom was touched. A steady rise to £60 per ton in July took place, and after that the price slowly declined to £50 at the beginning of 1922.

With regard to nut oils, which are principally in request by margarine makers, demand was adversely affected by falling off in trade in margarine and soap industries.

Demand for palm kernel oil was not by any means constant, but when present was sufficient to absorb the full output. Value varied comparatively little, the lowest for crude being £37 and the highest £60, while the average was £45, 15s, portion ex-Hull mill. Ground nut oil was in greater demand in proportion to the supply, and was, on the whole, a difficult article to work, owing to the fluctuations in price. The range of value for crude was £22 per ton, the lowest being £32 and the highest £54 per ton, and the average £42. All prices are "marked ex-Mill," except where otherwise stated.

The greater part of the work done by the refineries was in cotton and soya bean oils. The Continent was a buyer of both kinds throughout the year. In the case of cotton oil American qualities were very dear in comparison, and offers were very small; hence France, Belgium and Holland were continually in the market for the English make of soap and butter oil, and the exports were fairly large, although not quite up to the level of 1920. With an improved exchange in Germany, when it comes, it is confidently expected in Britain that that country will be a big buyer in the coming twelve months.

As will be seen from the detailed figures of Britain's trade in oil in 1921, gross imports of vegetable oils from abroad were again considerable, totaling 29,567 tons refined oils and 138,334 tons unrefined. Of the former cotton oil imported very largely from America accounted for 15,642 tons, or more than half, with coconut oil next 10,555 tons. The principal items of unrefined were palm oil from the West Coast of Africa, 58,035 tons, coconut oil, 42,690 tons, and soya bean oil, 10,473 tons. Of the gross imports 25,847 tons were again exported, leaving the net imports remaining in Britain at 142,054 tons against 188,908 tons in 1920, a decline of 46,854 tons.

The paint, color and varnish industry of the United Kingdom, in common with others, suffered from the general industrial depression. Foreign trade in the export of made-up paints, varnishes, etc., was almost at a standstill in consequence of the unstable state of the European exchanges, while the home trade was very quiet, owing partly, no doubt, to the economy of individuals and partly to the exorbitant cost of applying the products of the industry. The prices of raw materials generally fell during the year, and in some instances the fall was very marked. Linseed oil, for example, which was as high as £120 per ton, ex-Hull mill in the early part of 1920, did not soar higher than £39 in 1921. In April it was bought as low as £22 per ton, and during the greater part of the year the industry were able to buy between £27 and £32 per ton at Hull, which is practically pre-war value. American turpentine could be bought for £47 per ton early in April. Temporary shortage sent the price up to £100 for a few days, but the average price was in the neighborhood of £70. Foreign competition also reduced the prices of other important raw materials. The most friendly relations between employers and work people were maintained, thanks to the existence of a joint industrial council on which sit representatives of both parties.

Although a good deal of short time was worked during the year, it is confidently hoped that this will be avoided after the reduction of wages in January and as the demand for the industry's products increases. There are indications that this long hoped-for improvement in trade will not be much further delayed. Foreign trade, even now, is showing signs of new life, and if the reduction in raw material and manufacturing costs referred to above are followed by a corresponding reduction in the cost of painting (which at present is out of all proportion to the cost of the material used), those entitled to speak for the trade assert that they can confidently look forward to brighter prospects in 1922.

Development and Production in the Talc Industry of Italy

The talc industry of Italy is situated in the Cozie Alps in Piedmont and its existence is known as far back as the eighteenth century. Its chief centers are in the mountainous district near to the city of Pinerolo and up the valleys of the Germanasca and Chisone rivers. In many places the banks of talc form rich zones which are of considerable extent and capable of a large production. The talc is found in veins or banks between underlying banks of calcareous rocks and overlying formations of the so-called "pietre verdi" (green stones). These rocks form part of the crystalline schists and are attributed to the Jurassic and Triassic periods. The talc is generally found in foliated structure, laminated, scaly and in pocket formation in the lenticular mass, in banks without regular formation with outcrops situated from 1,400 to 2,000 meters above sea level. There are other similar talc formations known to exist, but they are of little industrial importance.

The talc of Pinerolo district was primitively and wastefully mined in the eighteenth century and part of the nineteenth century; it was sold under the name of "terra bianca" (white earth) by the local miners and was known on the market as far back as the end of 1700 A. D. under the name of "Craie de Briancon." It was made into small sticks or blocks which were used for writing upon metals and was also much used by tailors (tailor's stone). Locally it was used in somewhat larger blocks for making stoves and kitchen utensils for domestic use. Later on it was begun to be milled and ground in small stone grinding mills and was sold in the form of powder for a few lires per 100 kilos.

By the mining laws of Piedmont the talc belongs to the proprietor of the ground rights, and because of this it remained for a very long time in the hands of small and ignorant mine owners who were content with mining that small quantity of talc which represented to them a certain degree of wealth.

It was only towards the end of the nineteenth century by merit of Italian technical and commercial enterprise and because of the widening ranges of uses for talc that this industry commenced to leave behind it the character of the family industry which had been its characteristic up to that date.

Besides clearing up the question of ownership and buying up of the mining rights, the underground workings were properly organized and in place of the small stone grinding mills there began to spring up large works adapted for the grinding and milling of talc, fitted with all the modern appliances necessary to obtain the desired fineness and characteristic constancy of our talc. In the following table is reproduced the data showing the production of natural and ground talc from the year 1901. For the years preceding this there is not available data which can be relied upon.

Production of Talc in Metric Tons

Year.	Natural talc.	Ground talc.
1901.....	11,170	7,890
1902.....	10,100	8,645
1903.....	7,150	6,300
1904.....	7,000	6,740
1905.....	6,490	6,626
1906.....	8,731	7,894
1907.....	12,314	8,850
1908.....	10 930	9,410
1909.....	12,000	9,530
1910.....	12,454	11,580
1911.....	15,620	14,136
1912.....	16,240	14,324
1913.....	23,201	21,350
1914.....	22,328	19,540
1915.....	23,531	21,942
1916.....	27,483	25,933
1917.....	21,863	20,811
1918.....	18 111	17,369
1919.....	17,550	.....

The production of ground talc has nearly tripled in Italy during the last twenty years. It is now calculated that the world production of talc is nearly 160,000 metric tons annually. In this production the United States of America is represented by some 59,000 tons, France by 46,000 tons and Italy occupies the third place, but the superior whiteness of the Pinerolo talc noted upon the English and American markets under the name "Italian White" or "Italian Talc" has no rival either in France or in America.

In fact, the Italian talc commerce has been until a few years ago one of exportation. In the following table is given the countries which have absorbed most largely our production. The totals are in metric tons, but antecedent to the year 1912 it is not possible to obtain exact figures:—

Year.	France.	Germany.	Great Britain.	United States.	Egypt.	Other countries.	Totals.
1912.....	2,495	2,589	2,455	4,818	.....	4,825	17,182
1913.....	3,018	3,620	2,387	4,725	.....	4,825	18,575
1914.....	2,302	3,245	2,360	6,842	1,244	3,521	19,514
1915.....	3,232	1,539	3,986	6,558	2,600	1,363	19,278
1916.....	6,379	.....	3,842	6,341	4,050	702	21,314
1917.....	3,297	.....	2,303	3,687	1,060	242	10,569
1918.....	1,142	.....	1,689	471	948	160	4,410
1919.....	5,409	.....	1,896	1,222	.....	806	9,419
1920.....	4,503	.....	2,798	3,758	146	2,758	14,163

Until nearly the end of 1915 about 97 per cent. of our production was ex-

How Long is 80 Years?

The last eighty years show advancement which is comparable to that of all the rest of the ages.

In these eight decades, inventions, engineering achievements, the advancement of architecture and science have changed and improved our national living conditions.

And each new achievement has brought with it new painting problems.

In the eighty years since their beginning, Wadsworth, Howland & Company have studied and mastered these problems. They have developed a complete line of Bay State paints, stains, varnishes, enamels and finishes to meet every industrial and commercial painting need.

These products have withstood countless tests on all kinds of painting jobs. Long service has proven them the best. For every Bay State product has eighty years of experience back of it to guarantee its superiority—eighty of the finest, most progressive years in the history of the world.

BAY STATE
Paints, Stains, Varnishes, Enamels

WADSWORTH, HOWLAND & CO., Inc.
139 Federal Street, Boston, Mass.

New Haven, Connecticut
382 State Street
Hartford, Connecticut
153 Asylum Street
Springfield, Mass.
30 Harrison Avenue
Worcester, Mass.
555 Main Street
Brookline, Mass.
297 Harvard Street
Boston, Mass.
84 Washington Street
Boston, Mass.
222 Clarendon Street
Philadelphia, Pa.
522 Weightman Bldg.
New York City, N. Y.
101 Park Avenue

The Giant Painter

A Dominating Business *from* a Humble Beginning

Way back in '49 on the shore of a beautiful Lake in New Jersey, *Lucas Paints* sprang into being in an old grist mill.

Today, in addition to the main plant at Gibbsboro, New Jersey, three modern factories, one in Chicago, one in West Berkeley, Calif., and another in Pittsburgh, are turning out enormous quantities of *Lucas* products for domestic and industrial use.

Years of national advertising have familiarized the public with

Lucas
Paints and Varnishes

Thousands of distributors from Maine to Texas and from Oregon to Florida make it possible to buy *Lucas Paints and Varnishes* in practically every city or hamlet. The word *"Lucas"* on a package of Paint or Varnish is another way of spelling *Quality* and *Service*.

Warehouses and offices are located in

Philadelphia
New York
Chicago
Boston
Pittsburgh
Oakland
Asheville, N. C.
Denver, Colo.
Houston, Tex.
Jacksonville, Fla.
Memphis, Tenn.
Savannah, Ga.

John Lucas & Co., Inc.

ported; after that and because during the war Italy found herself short of certain other raw materials, and in some industries talc was used as a substitute, as, for example, the Kaolin in the paper industry. In this way the quantity exported fell and in 1916 23 per cent. of the production remained in the country of origin; in 1917 the figures were 50 per cent.; in 1918 the figures were 75 per cent.; in 1919, 45 per cent.; in 1920, 30 per cent. For the year 1921 the official figures are not yet published. The United States imports 28 per cent with 3,202 tons per year of the total Italian talc exported; France imports 23 per cent. with 2,648 tons per year; Great Britain imports 17 per cent. with 1,976 tons per year. The exportation to Great Britain is, however, during the period in review, that which has shown the greatest constancy.

From 1916 onwards an increasing percentage of the production of Italian talc has remained in the country of origin, finding its way into such industries as paper making, soap making and the rubber industry, which now consider talc as one of their most important raw materials.

Japan's Potash Industry During the War

The production of potassium muriate in Japan was started about 1910 by a private chemical company in Tokio on a small scale, and the pioneer producer was troubled seriously by competition from abroad. Up to 1914 this enterprise was regarded as of no importance, and the country's requirements were principally imported from France, Germany, Great Britain, Sweden and other countries.

With the practical stoppage of importation, the match manufacturing industry was very much troubled, and the poor stock in the market was quickly absorbed. The price made a heavy jump. The pioneer manufacturer was eagerly requested to increase his production, and at the same time ready help was given to attempts at starting new works. In 1915 accordingly the production of the potash reached 4,163,273 pounds, valued at 2,551,030 yen. In the following year it increased again to 7,296,005 pounds, valued at 5,901,930 yen. Therefore, the match manufacturing industry, which required roughly 6,000,000 kin before the war, was able to cover its needs at home, and although the imports of foreign fell off roughly to 1,710,000 kin, no inconvenience was felt. In 1916, however, the price again soared, the level of 200 yen per barrel being reached, whereas before the war the normal price in Japan was 17 yen. Japanese producers, who felt greatly encouraged by this trend of the market, worked hard to increase their production, and the year's production reached 7,296,005 pounds, valued at 5,901,930 yen. Not only could they meet demand at home with ease, but three years after the commencement of the war Japan was no longer a buyer but seller in the international market.

In 1917 the line witnessed still greater developments, and the year's production reached 13,294,721 pounds, valued at 8,158,137 yen. This was, however, too much to be absorbed by Japan and other Eastern countries, and the market, overladen with stock, commenced to decline. In the following year the industry was in decadence, partly because of the over production of the previous year and partly because of the cessation of the war. In 1920 manufacturers shut down their stacks one after another because of the heavy loss they incurred on account of the accumulation of stocks. In 1921 European goods were coming on the market again, and the difficulty of domestic manufacturers was greatly aggravated. The price accordingly fell to the level of the pre-war days and only one or two leading manufacturers continued producing.

Statistical data showing the rise and fall of this industry are very incomplete, but the following table, which was prepared by the Japanese government in March, 1921, gives an idea of the industry at the height of its prosperity; that is, 1918:—

Number of companies	21
Number of factories	22
Authorized capital	27,000,000 yen
Paid capital	18,000,000 yen
Number of men employed	800
Consumption of motive power	20,000 kilowats
Consumption of potassium chloride	1,237,691 kwamme

At present two of those factories are stated by an authority on the industry to be in blast, others having either temporarily or permanently closed. The production is given below:

Years	Volume in pounds	Value in yen
1915	4,163,273	2,551,030
1916	7,296,005	5,901,930
1917	13,294,721	8,158,137
1918	6,912,269	6,695,650
1919	9,429,122	3,375,985
1920 (estimated)	6,500,000	.....

The following table is prepared so as to give a fair idea of the price fluctuations which have proved a great stimulus to the new industry:

Years	January	March	June	September
	(Per 112 pounds in yen)			
1914	17,850	17,850	17,850	67,000
1915	100,000	130,000	45,000	95,000
1916	168,000	175,000	100,000	95,000
1917	105,000	95,000	75,000	82,000
1918	60,000	66,000	58,000	53,000
1919	40,000	32,500	33,000	37,000
1920	41,500	40,000	32,000	34,000
1921	32,000	30,000	28,000	22,500

These quotations are all figures named by Tokio holders at the end of each month noted. While the industry was prosperous, Japanese potassium muriate had a good market overseas. But its export commenced to decline toward the close of 1918, because Japanese producers, being very eager to maintain their war profit, went to such an extreme as to stop sales and await buyers' payment of their own high prices. The following tables shows the rise and fall of the export trade:—

Years	Volume in kin	Value in yen
1917	2,582,209	2,384,073
1918	3,608,102	2,728,951
1919	2,791,647	1,395,569
1920	1,935,146	790,536
1921 (to Sept.)	1,238,800	406,685

Before 1916 very little was exported by Japan. The best of Japanese muriate of potash buyers is China, that country being followed by Hong Kong, Asiatic Russia and the United States in the order of their importance. It is generally admitted by consumers that Japanese potassium muriate is of a good quality and can compare favorably with the best of European makers and locally the best of domestic brands are dealt in at 1 yen above imported goods. If Japanese producers could offer their goods at lower quotations they could retain the foreign markets, but they do not attempt to curtail production costs but urge the government to protect them with higher tariff.

The import of European potassium muriate is, under these conditions, invading the country steadily again. Below, the import of the goods for the last several years is given:—

Years	Volume in kin	Value in yen
1915	4,128,242	2,880,377
1916	1,733,781	1,761,960
1917	177,842	154,943
1918	50,803	64,226
1919	408,123	166,021
1920	6,764,278	2,354,600
1921 (to Sept.)	1,038,168	249,835

Japanese Fertilizer Industry, Past and Present

The year 1921 has been one of the worst for the Japanese fertilizer industry and trade. Farmers have cut down their consumption by 20 per cent. or more while at the same time trying to find less expensive substitutes for highly concentrated and expensive fertilizers. Often manufacturers here have been compelled to go on short time. Only during the last few weeks has the industry and trade found itself more stable. The industry, which has been rapidly and steadily developing since its inception, now finds its growth arrested.

In the middle of the sixteenth century Japan had a prominent scholar in agriculture who recommended the use of fertilizers such as oil cakes, bran, bone meals, animal flesh, sea weeds and other materials. In the seventeenth century the Japanese government instructed farmers to use as fertilizers, besides night soil, rotten vegetables and ashes. In 1696 another scholar in agriculture published a voluminous work on farming and more kinds of fertilizers were recommended by that scholar. Till the beginning of the nineteenth century the knowledge of fertilizers was more systematized and augmented and fish guano was recommended as one of the best.

With the restoration of the Imperial government in 1868, Japan's agricultural science was remodeled on the basis of imported learning and the use of chemical fertilizers was in favor with Japanese farmers. However, not much progress was noted in the industry before 1890. Almost all chemical fertilizers were imported, but consumption was small.

The import of 1868 was roughly up to 537 yen. Twenty years after, the import of 1888 was reported officially to have been 250,000 yen. In 1897, however, the import of foreign fertilizers reached 4,000,000 yen and Japanese business enterprises had their chance of inaugurating fertilizer manufacturing companies.

The training of agricultural experts was extended and every prefecture had its expert advisers in the matter of manuring. The list of fertilizers used in Japan included more than 50 kinds, from such primitive fertilizers as night soil or seed cakes to highly concentrated potashes from Germany. With the extension of use of fertilizers the development of the fertilizer industry was accelerated and in 1902 there were 26 joint stock companies specializing in the manufacture of fertilizers, their paid capital having been up to 1,682,702 yen. The development of the industry since that year is shown in the following table:—

Year.	No. of companies.	Paid capital. Yen.
1902	26	1,682,702
1907	51	5,983,001
1913	83	16,364,690
1914	81	16,163,575
1915	108	17,040,611
1916	97	17,869,512
1917	115	17,355,470
1918	124	22,362,920
1919	193	.....
1920	246	.....

The paid capital in the last two years is not yet available, but it is believed to have reached 45,000,000 yen in round numbers. The number of companies is very big. About one-half are partnerships in which investments are individually not big. The decrease noted in the years 1914 and 1916 are due to the amalgamation or closure of those small concerns and does not mean any retrogression of the industry itself.

With the extension of the scope of the industry its production has been rapidly increasing. The industry's yearly production is given below, according to classification of the Japanese Government:—

Year.	Animal fertilizers. Yen.	Vegetable fertilizers. Yen.	Mineral fertilizers. Yen.	Total, with others. Yen.
1904	8,764,000	4,524,000	3,317,000	19,197,903
1905	8,751,000	4,665,000	3,534,000	22,011,044
1906	8,158,000	5,284,000	4,667,000	24,686,625
1907	8,748,000	6,500,000	6,740,000	33,628,073
1908	7,044,000	6,957,000	6,005,000	29,150,439
1909	6,626,000	6,494,000	6,864,000	29,617,115
1910	7,545,000	7,616,000	7,323,000	34,676,734
1911	7,580,000	9,797,000	8,967,000	40,677,358
1912	9,793,000	10,108,000	14,653,000	51,444,534
1913	11,010,000	11,770,000	15,800,000	57,760,000
1914	10,560,000	11,980,000	16,310,000	56,390,000
1915	8,816,941	13,656,778	14,671,205	49,431,658

Year.	Animal fertilizers. Yen.	Vegetable fertilizers. Yen.	Mineral fertilizers. Yen.	Total, with others. Yen.
1916	9,483,988	18,805,280	19,841,208	61,111,914
1917	13,520,814	27,581,737	27,541,229	86,761,770
1918	16,965,197	48,208,400	38,218,790	130,096,713
1919	27,397,511	67,113,330	50,371,516	204,149,794

Although later statistics are unavailable, it is believed that in 1920 the preceding year's record was pretty well maintained. The decrease that attended the crisis of 1920 was pronounced in the early part of 1921 and in the latter part of the year it was much more accentuated. According to an authority in the line of industry, 1921's production was nearly cut in half.

At present the producing capacity of Japanese fertilizer companies has reached such magnitude as to enable them to satisfy all requirements. The normal capacity of sulphate of ammonia manufacturers is now estimated at 76,386 tons a year, exclusive of the production of some minor plants.

The normal capacity of superphosphate manufacturers is estimated at 912,027 tons a year, exclusive of the production of minor plants. None of the manufacturers now operating to capacity. Some are even using their plants for the manufacture of caustic soda and other industrial chemicals. Thus in 1921 the growth of the Japanese fertilizer industry, which had been quite steady and pretty rapid, was arrested. Although some people hope that it will soon, at least in 1923, be resumed, it is doubted if its revival be so quick.

How bad 1921 was for Japanese fertilizers is shown by statistics on the importation of crude fertilizers and raw materials for fertilizer manufacturers in the first six months of the year which has just been prepared. It is given below:—

	1921 Volume.	1921 Value.	1920 Volume.	1920 Value.
Bean cakes	1,466,100,000	60,540,000	1,319,320,000	109,600,000
Phosphates	132,800,000	4,100,000	266,330,000	9,530,000
Cottonseed cakes	52,870,000	2,310,000	56,210,000	4,710,000
Sulphate of ammonia	9,500,000	1,020,000	104,990,000	17,330,000
Bones	27,190,000	1,100,000	49,190,000	4,440,000
Bone meals	21,630,000	960,000	65,930,000	7,010,000
Rapeseed cakes	20,780,000	760,000	52,880,000	4,510,000
Miscellaneous oil cakes	13,260,000	520,000	64,860,000	5,150,000
Chilian saltpeter	3,480,000	360,000	171,140,000	21,230,000
Fish guano	620,000	50,000	19,060,000	2,400,000
Rice bran	.....	.....	.....	40,000
Others	.....	790,000	.....	6,030,000

Historical Resume of the Petroleum Industry in Japan

A little more than 50 years old is Japan's petroleum industry and trade. The Reporter's jubilee is just that of Japan's petroleum line, therefore.

As far back as 668 A. D. the country's official chronicles recorded the discovery of wonderful burning water in the province of Echigo, where at this date great Niigata oil fields were found. This discovery was soon followed by another of pitch in the same province. However, people in those ancient times knew very little of the use of that burning water, and it was presented to the Imperial Court only as a wonder, which was often mentioned in ancient chronicles of later periods, but attempts to use it were made for the first time in the eleventh century. People in Echigo used it as a substitute for fuel wood and charcoal in winter, for which they paid taxes to the feudal lords of that province. In 1613 A. D. a man at Niitsu, which is now known as one of the best fields in Japan, started boring wells there for commercial purposes. This example was soon followed by other people at other districts. The chronicles of the Tokugawa shogunate record that in 1630 the feudal lords of the place gave formal concessions to owners of pools on the conditions that annual fees were to be paid to their treasuries.

At first petroleum was used in its crude form. Often attempts were made to refine it, but no adequate success was obtained till 1848, when the owner of a pool obtained a suggestion about distillation methods from a medical man in his own village, who had a little knowledge of Dutch and foreign medical science.

As a modern industry, however, the Japanese petroleum industry and trade had its origin in 1869, when the new imperial government of Japan promulgated the mining law of Japan with a view to exploiting the mineral resources of the country along modern lines and strengthening the financial position of the new administration. At the same time more than 70 foreign mining experts were engaged to help Japanese mining operators. In conformity to their advice the government even took over some mines and introduced new foreign methods in their management. Although the petroleum industry was not helped that way the activity of foreign experts in copper, iron or gold mines proved a great stimulous to owners of pools, and in 1870 a few of them tried to engage an American expert to reform the oil industry. The complete reconstruction of oil refineries was also attempted, but failed at that time. To this line of industry, which was burning with the desire to reform itself, the working of Benjamin Smith Lyeman, an American geologist in the employ of the Japanese government, proved a decided encouragement. His survey of possible fields in Japan was very careful and minute and finished in June, 1882. He gave as his judgment on the possible position of Japan as an oil producing country that her petroleum vein started in Hokkaido and came to an end in Taiwan or Formosa, passing through the northern provinces along the coast of the Sea of Japan.

In the meantime private enterprises were successfully pursued, and in the year preceding Lyeman's conclusion of his survey several refineries were in existence. The import of foreign oil was also started in 1869 by Chinese merchants at Nagasaki. The first import was only eight boxes. In the following year the total import increased to 70 boxes. In 1872 the arrivals amounted to 3,530 boxes. This trade was soon shifted to Yokohama and the market was in the hands of British, Dutch and American merchants. Till 1893, however, when the Standard Oil Co. of New York opened its office in Japan and started its direct sale, the import trade was desultory and unsystematic.

The exploitation of Niigata fields was definitely started about 1888 at Amase by a corporation, and three years later a partnership sprang up at Urase. This marked another stage of development in the industry and a petroleum boom started in that prefecture, where, according to the report for 1891, there were 430 corporations with more than five million invested in that industry.

The Standard Oil Co. of New York's opening of an office in Japan proved a great stimulus to the native industry, and in the same year in Niigata prefecture a new corporation was started, its purpose being to buy up smaller corporations and partnerships and systematize the industry in Japan. This was the beginning of the Hoden Oil Co. The same function was performed by another and older company, that being the prototype of the Japan Oil Co. In 1898 a new field at Nishiyama was discovered, and at intervals of a few years during the next decade more new fields were discovered and the industry's scale was enlarged. A setback was experienced in 1908, when no new pool was discovered and the year's production fell off. Several years later, however, the industry was helped out of this difficulty by the importation of rotary borers from the United States, which enabled the owners to revive apparently exhausted pools. The latest stage of development was marked in 1914, when Akita pools were discovered.

While this development was in progress the petroleum trade was also passing through its several metamorphoses. Beside the Standard Oil Co. of New York, the Rising Sun Petroleum Co. started its office here, having imported oils from Persia, Borneo and

American Hydro Carbons Company

Miners and Producers

Ozokerite **Gilsonite** **Elaterite**

Electrotypers Wax a Specialty
Won't Drag, Slip or Crack
Perfect on Finest Work

Mines: **Ozokerite, Soldier Summit** **Gilsonite, etc., Uinta Basin**

General Offices—Dooly Block, Salt Lake City, Utah

ESTABLISHED in 1842

Briggs-Maroney Co.

INCORPORATED

MANUFACTURERS FOR OVER EIGHTY YEARS OF

The Highest Quality Paints, Colors and Putty

A permanent standard of quality and service maintained.
Making it the most dependable li ıe for dealers.

Makers of the Famous

SHAWMUT MIXED PAINT
VELVALITE FLAT WALL FINISH
BERKSHIRE BRONZE GREENS
PEERLESS PUTTY

Office and Factory at EVERETT STATION, BOSTON, MASS.

other districts, while at the same time starting several refineries near Yokohama. The competition between those foreign importers and Japanese companies was soon ended, however, and to this day a convention exists among all concerning the prices of their products to insure the peace of the market.

As illustration of the foregoing brief review of the development of Japan's oil industry and trade several tables are given. The first gives the production of petroleum in Japan since 1874, before which year no statistical record was kept of the industry:—

Years.	In Koku (equal to 39.7033 gallons).
1874	3,079
1875	4,830
1876	8,155
1877	10,114
1878	18,920
1879	24,816
1880	22,974
1881	17,721
1882	20,515
1883	21,659
1884	29,541
1885	30,931
1886	40,113
1887	30,304
1888	69,604
1889	55,871
1890	54,399
1891	55,983
1892	72,893
1893	94,145
1894	151,986
1895	149,497
1896	208,400
1897	231,229
1898	280,742
1899	474,405
1900	767,092
1901	983,799
1902	877,837
1903	1,065,116
1904	1,073,640
1905	1,187,136
1906	1,378,397
1907	1,513,247
1908	1,826,972
1909	1,749,222
1910	1,701,051
1911	1,522,548
1912	1,567,490
1913	1,467,490
1914	2,413,261
1915	2,653,511
1916	2,647,638
1917	2,537,093
1918	2,155,871
1919	1,971,803
1920	1,950,172
1921 (up to August)	1,276,422

PRODUCTION OF ILLUMINATING OIL

Years.	Volume in Koku.
1907	541,965
1908	548,650
1909	567,824
1910	421,792
1911	448,597
1912	451,149
1913	597,025
1914	592,564
1915	604,545
1916	604,101
1917	473,236
1918	279,823
1919	234,801
1920	185,000

This table tells many tales about Japan's petroleum trade and its history. In the early days petroleum was only used for illuminating purposes in Japan. Once the annual consumption of lamp oil amounted to more than two million koku. Therefore, all petroleum refineries in Japan devoted all their plants and crude oil to the production of lamp oil, but still only one-third of the whole consumption was supplied. Two-thirds were imported from the United States and Hongkong. This undeveloped state of the industry lasted roughly for forty years. About 1910 a great revolution started in the Japanese trade, for the cost of electricity and gas was reduced, thanks to the better exploitation of water power, and the consumption of petroleum for illuminating purposes greatly fell off. The maximum consumption of lamp oil about 1910 was a million koku. However, the consumption of machine oil and light oil commenced to increase. In that new section of the market, moreover, foreign firms' competition was felt less than in the illuminating oil line. Therefore, Japanese oil refiners devoted more labor and crude oil to the production of those oils. When the world war commenced the consumption of gasoline and motor oil increased and a new field of activity was laid out before Japanese oil refiners. Now only one or two of leading oil companies here keep on producing lamp oil and the Japanese petroleum market is peacefully divided between Japanese oil companies which occupy the market for light and machine oils and gasoline, while the market for illuminating oil is largely in hand of foreign houses.

The following table gives the production in Japan of other than illuminating oils:—

Years.	Gasoline.	Light oil (vol. in Koku).	Heavy oil.	Machine oil.
1910	4,847	201,697	336,223	113,424
1911	2,185	221,000	281,077	123,514
1912	4,698	235,534	273,585	163,374
1913	22,037	252,585	425,135	178,827
1914	48,185	208,914	316,969	193,730
1915	45,587	192,636	813,600	203,017
1916	85,478	313,194	895,463	205,781
1917	112,359	418,741	626,124	325,880
1918	126,011	452,822	422,999	481,300
1919	147,236	442,895	268,695	449,218
1920	146,000	615,000	185,000	390,000

The fact that Japan is blessed with poor supplies of oil within her territories and that fuel oil supplies were proved by the world war to be a determined factor in the naval warfare of the future impressed Japan's leaders during the later periods of the war and its study as an urgent problem was begun by the Diet and the government. The problem is still in charge of a committee attached to the Department of Agriculture and Commerce. But it is already plain to people generally that Japan has to seek the solution of the problem in the conservation of home resources and the importation of needs in peace days. Several attempts have been already made or are being made to import foreign crude oil on a large scale. Among the rest, the Ashai Oil Co., the Teikoku Oil Co. and the International Oil Co. are already importing foreign oil in their own tank boats. Another corporation is soon to begin its importation of Mexican oil in its own boats. By some sections of the industry here these are believed to be marking another epoch in the history of the Japanese oil business. The merger of the Japan Oil Co. and the Hoden Oil Co. and the springing up of a big, well-organized company as consequence is also stated to be an attempt to withstand the overwhelming large importation of foreign oil. Below the importation of foreign oil since 1913 is given:—

Years.	Volume in gallons.	Value in yen.
1913	68,468,357	13,375,514
1914	54,831,763	11,235,321
1915	34,359,528	8,463,675
1916	22,273,766	5,370,948
1917	19,426,787	5,304,921
1918	23,276,881	8,537,615
1919	37,359,052	21,675,646
1920	33,911,389	21,272,680
1921 (up to August)	14,215,457	8,916,002

Developing a Chemical Industry in Japan

It is generally believed that Japan's activity in industrial and pharmaceutical chemistry started recently and on account of the war. It is, indeed, quite a new feature in Japan's industrial life that it is ranked among Japan's foremost activities, but they have a history of nearly 50 years behind them.

During the days of Samurai's administration Japan had its primitive manufactories to turn over drugs and some kinds of industrial chemicals. Botanicals and herbs were concocted or infused or distilled, and the needs of those olden times were fully met. Their works still survive in some provincial towns and although no statistical data are available regarding them it is believed that they still have an extensive market in rural parts of the country. Attempts were made by the new imperial administration nearly fifty years ago to modernize this primitive industry, but they only resulted in starting entirely new ones beside it.

The Bureau of Chemical Researches, founded immediately after the inauguration of the new imperial regime, awakened the nation to the necessity of introducing western methods of manufacture of chemical products, which, even then, people knew to be the nucleus of all industries. But Japan had no expert under whose guidance to start factories and therefore began with the importation of foreign-made goods. Already about 1868 a fairly good trade in pharmaceutical chemicals was chronicled. The inauguration of a polytechnic college in Tokio several years later made it possible for Japan to plan for the inauguration of its own chemical industry because the institution turned out young and able experts, some of whom were sent abroad to perfect their training and became quite efficient pioneers in the new field of activity.

Immediately after the inauguration of this institute a model chemical plant was started at Osaka by the government, where pharmaceutical and industrial chemicals were produced. In 1883 this plant was given over to a group of business men and converted into a private joint stock company, but it was still the nucleus of the new industry and directed by the country's ablest and most enthusiastic experts and scientists. In 1880 a private factory was started at Osaka, which aimed at producing heavy chemicals, and proved the first institution in Japan to turn out industrial chemicals. The company was called the Osaka Alkali Works. The government model plant has since grown bigger and now it is one of the leading pharmaceutical companies in Japan, it being styled the Great Japan Pharmaceutical Company.

These were soon followed by an acid and alkali works in Tokio and a general chemical works at Onoda, Yamaguchi prefecture. The Japanese Government was also anxious to promote the industry and at every opportunity that offered gave it tariff protection. The Chino-Japanese War, which stimulated the growth of all industries in Japan, also proved a potent incentive to the chemical branch and after the war its scope was remarkably enlarged. Ten years later the Russo-Japanese War served the same purpose, and in 1907 when the war was ended and the peace was re-established Japan had 21 companies producing industrial chemicals, their combined authorized capital having amounted to 6,783,000 yen.

In 1908, however, the Japanese Government nationalized salterns and salt refining plants and the chemical industry as a whole was hit quite hard. Almost all alkali works converted their plants into fertilizer manufactories. Acid and potash producers were not so badly affected, but they experienced difficulty in meeting foreign competition. Although a few new works were started by some courageous business men of foresight during that dark period, the number of chemical works dwindled away and, according to the census of 1912, only 14 leading works turning over industrial chemicals were in Japan, their paid capital having been as small as 3,101,000 yen. Pharmaceutical works were also small in number.

The following table, based on official reports, gives the production of some leading chemicals in those years:—

Years—	In yen.
1905	2,811,178
1906	3,018,142
1907	3,154,402
1908	2,740,441
1909	4,356,718
1910	4,890,043
1911	6,406,024
1912	5,646,356

This table shows that a fair development was being made, but it must be noted that magnitude attained by the total production was a negligible quantity as compared with western countries. Commodities listed are sulphuric acid, muriatic acid, caustic soda, iodine and potassium iodide, alum, sulphate of ammonia, bleaching powder, acetic acid and others. It is quite evident that the domestic production was not enough to meet the ever increasing demand of the country and for the main requirement Japan depended upon importation from Germany, England and other countries. In the following list the total values of imports in 1911 and 1912 are given, which may, in comparison with the foregoing table, show clearly Japan's position in this line:—

	Yen.
1911	30,578,000
1912	33,789,000

When the war started in 1913 and the import of chemicals became difficult Japan's anxiety as to future supplies may easily be understood. Market conditions during several months after the commencement of the war are shown by the quotations in Tokio of caustic soda and potassium muriate in 1914 and 1915 as given below (in yen):—

Months—	Caustic soda, per 100 lbs.	Potassium muriate, per 112 lbs.
January, 1914	5.00	17.85
March, 1914	4.90	17.85
May, 1914	4.90	17.00
July, 1914	4.70	17.85
September, 1914	8.35	67.00
November, 1914	5.25	85.00
January, 1915	5.10	100.00
March, 1915	5.10	130.00
May, 1915	7.60	85.00
July, 1915	6.00	60.00
September, 1915	9.00	95.00
November, 1915	9.00	118.00

These are all quotations at the close of those months. One month after the commencement of the war this was foreseen by business men and the Tokio Chamber of Commerce requested the government to start inquiry into the supply of chemicals. The Japanese Government also proclaimed an embargo on the re-export of pharmaceutical chemicals in August and enlarged it in September. Toward the close of the same month a comprehensive ban was placed on the export or re-export of industrial chemicals, dyes and naval stores. These steps were followed by the inauguration of a committee including all noted manufacturers and experts to which was entrusted the framing of a policy for the government in regard to the upkeep of the supply of chemicals and the inauguration of the chemical industries wanted but not in existence. The committee's workings resulted in the revision of import tariff along protectionist lines on the one hand and the promulgation in 1915 of a law encouraging the manufacturers of dyes, potashes, some acids, alkaloids and several coal tar distillates. The price of salt required for the production of alkalis was also lowered by the Monopoly Bureau in conformity to the advice of the committee.

The law having provided for the grant of bounties to companies producing dyes and other coal tar distillates and some pharmaceutical chemicals, a dye company, two pharmaceutical works and one glycerin company were formed in the year following. The private companies which had been laboring under difficulty found their position suddenly favorable and improved partly by the cessation of competition from overseas and partly by the fast advance in the price of their products, began, one after another, to enlarge their plants and the scope of their production. New chemical companies were also promoted in fast increasing numbers.

To give a clear idea of the chemical manufacturing boom after the commencement of the war the following extract is made from the Bank of Japan's reports on industrial promotion:—

NEW YEARLY INVESTMENT IN CHEMICAL INDUSTRY

Year.	Yen.
1915	45,770,000
1916	76,250,000
1917	129,629,000
1918	185,235,000
1919	249,252,000
1920	263,382,000
1921 (up to September)	66,025,000

It may seem strange that the investment in 1920, when Japan was visited with a great financial crisis, was one of the biggest, but it must be noted that up to the close of March the country was prosperous, and practically all that investment was made before the crisis started. The total of the investment in the chemical industry in the six years since 1915 is up to 949,518,000 yen. The figure is, it must be noted, much bigger than one year's investment in all branches of industry and commerce in Japan before the war, the total of investment in 1913 having been only 669,300,000 yen, while in 1914 it was smaller than that, being only 352,400,000 yen.

The Japanese government statistics of chemical works are very incomplete and include quite small manufactories which contribute very little to the industry's magnitude of importance. They also include both pharmaceutical and industrial chemical works, and are reproduced below as affording a fair idea of the expansion of the line during the war years:—

Year.	No. of factories.	No. of employes.
1908	36	1,657
1909	143	2,061
1910	218	2,604
1911	230	2,793
1912	237	2,661
1913	341	3,365
1914	402	3,182
1915	468	5,115
1916	717	10,305
1917	832	13,335
1918	841	13,807
1919	662	16,325

In spite of the increase registered in investment the chemical industry was already hit by the cessation of the war in 1919. Although the statistics for 1920 and 1921 are not available it is believed that the number of factories decreased sharply by no less than 40 per cent. In the following table the rise and fall of the chemical industry during and after the war are shown in the fluctuations in its productions:—

Year.	Yen.
1908	2,740,411
1909	4,356,718
1910	4,890,043
1911	6,406,024
1912	5,646,356
1913	7,687,232
1914	7,583,782
1915	16,717,143
1916	37,848,244
1917	42,494,620
1918	47,399,696
1919	49,822,894

Although no statistics showing the production in 1920 and 1921 are yet available it is believed that the tendency to increase maintained till 1919 must have been arrested. Some people believe that at least a 30 per cent. decrease has been effected. In the case of such lines as alkali products the decrease in 1920 and 1921 ranges between 40 and 65 per cent. The variety of products was limited before the war, the principal pharmaceuticals being menthol, peppermint oil, iodine and its compounds, naphthaline, arsenious acid, potassium chloride, alcohol, sodium sulphate, diastase, citrous acid, camphor, Borneo camphor, some alkaloids and others. But the list has been much lengthened since, and now includes caffeine, morphine hydrochloride, heroin hydrochloride, quinine and others which Japan can well afford to export. Aspirin, salicylic acid, bromates, creosote, glycerin, zymole, santonin and many others. The government started during the war planting coca, cinchona and other trees and plants in some warm districts, and some degree of success is expected to be gained in time. An official bulletin recently issued concludes the survey of the pharmaceutical chemical industry as affected by the war, saying that since the war, while many important pharmaceutical chemicals have been newly manufactured, raw materials have still to be imported from abroad. Japan's pharmaceutical chemical industry has still much to do before it is self-sufficient.

In the industrial chemical line the principal products before the war were only sulphuric acid, muriatic acid, nitric acid, sodium sulphate, carbonate of soda, caustic soda, potassium chlorate, potassium chloride, alum, bleaching powder, wood spirit, acetic acid and several other articles, but the list at present includes more important commodities, such as bichromate of potash and soda, potassium prussiate, phosphorus, potassium permanganese, silicate of soda, sulphate of copper, oxalic acid, milk sugar, zinc dust, sulphate of nickel, sulphate of ammonia, calcium carbide, and many others.

With the cessation of the war Japan's chemical industry felt a strong menace from abroad, and the Japanese Chemical Industry Association in November, 1918, started inquiry into the possible effects of the peace. In March, 1919, the association presented its matured opinion to the government and the problem was a question before the Diet, but the Diet having been dissolved no adequate provision was made for the safety of the industry that year. In August, 1920, the much desired revision of the tariff was effected and promulgated. Duties on coal-tar dyes and

FIFTY YEARS OF SERVICE

1872——CHICAGO——*1922*

MANUFACTURERS' AGENT

E. H. HAINES

L. S. HAINES, Proprietor

RAW MATERIALS

FOR MAKERS OF

PAINT, VARNISH, SOAP

Storage Warehouses of THE E. H. HAINES DISTRIBUTING COMPANY
107 W. 31st STREET—For the service of the Trade

WOOLSEY'S

PAINTS AND VARNISHES

For Domestic and Export Trade

Standard Mixed Paint. Glisto (Endurance) White Enamel. Menitone Flat Wall Paint, Colors in oil and in Japan, Adamant Floor and Deck Paint, Auto Enamel, Varnish Stains, Bermalo Interior, Cold Water Paint, Weatherkote Exterior Cold Water Paint, Shingle Stains, TI-TALL, Asbestos Roof Coating, etc.

Copper Paints and Marine Paints a Specialty

Constant plugging by salesmen. Constant Circularizing. Constant advertising. Constant selling, advertising, and display of our goods by merchants. Constant effort on our part to make our products the Best for the various purposes. Constant thought to plan campaigns for the best interest of our customers and ourselves. Constant effort to be absolutely honest with our patrons has brought fruit and placed us where we stand today, one of the foremost Paint and Varnish Manufacturing Concerns of the United States, and we will constantly endeavor to merit this reputation.

C. A. WOOLSEY PAINT & COLOR CO.

Established 1853. JERSEY CITY, NEW JERSEY, U. S. A.

some other chemical products were raised to 35 per cent. ad valorem. But an agitation for further protection is maintained, on the ground that the industry is menaced by the importation of low-priced European goods.

Below the import and export side of the Japanese chemical line is shown with the list of annual exports and imports:—

Year.	Export value. Yen.	Import value. Yen.
1913	.....	39,603,318
1914	.....	37,372,761
1915	30,781,243	30,596,116
1916	56,826,585	55,429,809
1917	65,882,073	64,957,475
1918	73,660,248	77,963,429
1919	73,147,387	122,637,461
1920	68,984,870	140,906,771
1921 (up to September)	23,856,458	41,711,526

Dye Industry of Nippon Expanded Greatly in War Years

Japan before the World War had no dye industry capable of coping with the rapid modernization of the country's textile industry. It was indeed almost on the verge of extinction. What the country has at present is, therefore, purely a creation of the World War, a new industry which, it is apprehended, will not stand on foot much longer unless it is carefully nursed in greenhouses of protectionist tariff.

The protectionist groups of business men and manufacturers in Japan claim that already German dye manufacturers have regained much of their trade which was lost during the years of war, not only Japanese colors, but colors from the United States, France and Great Britain being steadily ousted from the market. In a sense their claim is well founded. Before the World War Japan depended largely on the supply of artificial colors from Germany and that of natural indigo from British India and Java. In Japan in olden times extracts from herbs and wood were used along with indigo grown in Awa or Tokushima prefecture. Some natural colors were also imported from China. As the new imperial government started its modernized administration of the country those primitive colors were almost all discarded and foreign colors were adopted. With the growth of the textile industry the requirement of dyes increased and about 1904 the country's consumption of dyes was estimated at something like ten million kin (kin equals 1.32 pounds).

In 1914 when the World War started the Japanese textile industry was depressed and the year's import of dyes was unusually small, but still reached the figures as given below:—

Description—	Volume in kin.	Value in yen.
Natural indigo	12,000	26,000
Indigo pure	1,229,000	3,255,000
Logwood extract	532,000	93,000
Alizarine dyes	1,429,000	2,827,000
Aniline dyes	3,104,000	3,842,000

Practically all of the alizarine and aniline colors came from Germany. Only part of indigo pure was imported from Switzerland. In 1915 when the war stopped the direct outward trade of Germany, therefore, Japan was troubled with the shortness of dyes, although some descriptions of aniline colors were still imported through neutral countries, notably from The Netherlands and China. The import list of 1915, which is given below, will be a good index to that situation in the dye trade after the commencement of the war when compared with the foregoing table:—

Description—	in kin. Volume	in yen. Value
Natural indigo	43,373	146,024
Artificial indigo	7,469	48,699
Logwood extract	1,621,463	807,253
Aniline colors	1,429,330	2,827,508
Alizarine and other colors	25,256	54,991

How this war-imposed restriction on imports of Japan, which had no dye industry of her own, stimulated the dye trade in that country and impressed the leaders of industry with the necessity of having one herself can be seen from the following comparison of the quotations just before the commencement of the World War and in February, 1916:—

	Before the war. in yen.	Feb., 1916.
Indigo pure, 112 lbs	190	2,000
Aniline salt, picul	33	400
Alizarine blue, picul	237	5,000
Direct black, picul	38	800
Direct red, picul	38	2,500
Acid green, picul	150	3,500

The first attempt to cope with this tendency in the dye trade made by the Japanese Government was the ban on the re-export of all artificial dyes. The second attempt was also made by the government, in November, 1914, when it appointed a committee to investigate the advisability of starting some chemical industries which were not in existence at that moment in Japan, but were most urgently needed. In March, next year, the committee presented its report on coal tar distillation, the chairman remarking in the concluding part of the report that the coal tar distillation industry had an important bearing on the nation's welfare, and that the government was urged to give every possible help to this new industry. The kind of help wanted was the furnishing of low-interest funds together with a reduction of freight rates on the raw materials consumed by the industry. On the basis of this report a bill was at once drafted by the government and the diet then in session was asked to consider it. The bill provided for the grant of bounties to joint stock companies making dyes within the territories of the empire, the grant being continued for the ten years after their inception. This bill was promptly passed by the diet and became law.

As soon as the law was enacted a conference of coal tar producers and distillers was called in Tokio. It was asked to co-operate with the government in the inauguration of the new industry. Before that time, however, some attempts had been made by private establishments to turn out colors and their representati.es gave valuable suggestions at the conference which sat in the office of the Department of Agriculture and Commerce June 19, 1915. The conference finally advised the government to float a semi-official company, which would prove the center of the new industry by devoting much of its capital and time to scientific researches in the new industrial field. In February, 1916, the company was founded and the cornerstone of the Japanese dye industry was laid.

Around this centre many new enterprises sprang up, some of which having been backed up by big financial interests. At the same time, the United States commenced to seek a market here and a great change was working its way in the dye industry and trade. In 1917, when the Japanese government took a census of the industry the dye manufactories in Japan numbered a little less than two hundred, scattered over 37 prefectures. Their authorized capital reached 10,700,000 yen and the number of their employes reached 26,000. Their business prospered as prices remained at a high level in spite of their endeavors. Following are the quotations for some principal colors in 1916 and 1917, in yen per picul:—

	Jan'ry 1916	Jan'ry 1917	June 1916	June 1917	Dec'br 1916	Dec'br 1917
Alizarine blue	5,000	3,500	4,500	3,000	3,300	4,800
Aniline salt	400	120	280	70	190	120
Direct red	2,500	2,400	2,500	2,000	2,800	2,500
Direct black	800	700	750	400	700	400
Acid green	3,500	2,300	2,800	2,000	2,500	2,500
Acid black	2,000	1,700	1,800	1,600	1,900	2,000

The estimated output of the new industry was up to 7,500,000 kin, valued at more than their paid capital. Of this figure, 4,400,000 kin was sulphur colors. The rest were methyl violet, aniline salt, and others. The semi-official company was successful in turning over aniline oil, carbolic acid, aniline salt, direct red, benzo purpline, methylene blue, methyl violet, chrysophenine and some sulphur colors.

In 1918, however, the Japanese dye industry became apprehensive of the future because the cessation of war was thought to be imminent. It sought a market in China and succeeded in securing one for sulphur colors, which the Japanese industry had perfected. Thus the dye industry became a fairly important new line for Japan and China and its pioneer efforts bore fruits. In the fall of that year the industry was faced with foreign competition and a rapid decline in prices. Smaller manufacturers were compelled to shut down their works and dismiss their experts and men trained during the years of the war. The readjustment forced on the industry this way was continued till the early part of 1919, when all weaker plants were eliminated and only comparatively strong concerns were left in the field. Those started their agitation for protection with the help of scientists and manufacturers in other lines. Although a section of the public which adheres to its traditional free trade ideas was opposed to this agitation, the industry s proposition was accepted by the government and the diet and in 1920 the tariff on artificial dyes were raised to 35 per cent. ad valorem. At the same time, a law was formulated for the prevention of foreign dumping.

The legislation has, however, since proved insufficient to protect to the fullest extent of the term the Japanese dye industry. In spite of the laws against them, German manufacturers have imported their colors at low prices and not only Japanese colors but American colors which have taken the place of German products since the early days of the war are being ousted from the market by their cargoes. The Japanese color trade is now hopelessly depressed with the overloading of German dyes while the Japanese dye industry is still compelled to struggle for its existence.

In the following table the scope of the Japanese industry and its fluctuations in the last few years:—

	1917	1918	1919	1920
Number of factories	200	97	59	55
Authorized capital	10,700,000	18,642,544	..	17,685,032
Paid capital	.....	13,844,044	..	13,259,582
Experts employed	.....	549	..	300
Workmen employed	26,000	3,243	..	1,349

Paint Manufacturing in Japan Has Interesting Record

Paint manufacturing is one of the oldest modern industries in Japan, its origin being traceable to as far back as 1874. Its growth has been rather tardy only because it has had such a strong rival as British paint plants.

A few years after the establishment of the Meiji Imperial regime the new government founded a college in Tokio, and the training of young men in modern science was started. One of the professors in the new college started his own laboratory in 1874 and turned out paints as a result of several months' experiments. This was the commencement of the Japanese paint manufacturing industry. Before the new pigments were supplied by this professor-manufacturer, Japanese people knew no painting material other than their old lacquer and primitive pigment earth.

This modest laboratory was soon enlarged into a modern factory. The kinds of paint turned over also increased, but British paints had already gained a firm hold of the market, and the pioneer experienced many hardships in maintaining the new enterprise. However, timely help was given by the Japanese Navy, and he tided over his difficulty. When Japan fought China he secured a chance to extend his market. The Russo-Japanese war gave him another chance to enlarge his factory, and it was converted into a well equipped and financed joint stock company.

The success of this enterprise encouraged more people to enter the trade, and more paint companies sprang up. Before the world war their number exceeded two dozen. In 1914, when the war commenced, those companies which were primarily intended for the supply of domestic wants were suddenly called upon by other Eastern countries to stand as suppliers of their wants. Their products were readily purchased by foreign buyers at their prices. That year the export trade soared from almost nothing to 137,000 yen. In 1917 the trade was more than doubled. The increase witnessed in 1918 was quite wonderful, it having reached much more than 4,000,000 yen. The import of British and German paints, on the other hand, fell off to a marked extent. The year 1918 was, indeed, the best in the history of the Japanese paint industry, for in 1919 the export trade dwindled away and the industry, too much inflated, was compelled to contract. Its condition last year was the worst in the recent years. This year, 1921, it has also been confronted with many hardships. In the best days of the industry Japanese paint manufacturing companies numbered 31, the number of their employes having exceeded 2,000 men and women. But now it is doubtful if two-thirds of the number continue their operations.

No accurate statistical data have ever been compiled either by manufacturers themselves or the government. As regards production, only records of 1918 and 1919 are available. They are given below:—

	1918 Volume pound	1918 Value yen	1919 Volume pound	1919 Value yen
*White	2,830,832	847,352	1,794,085	543,430
†White	1,009,943	301,243	628,704	168,683
Black	791,912	97,358	319,008	54,917
White	3,900	1,560	641,007	153,920
Other colors	2,467,208	377,237	2,206,731	417,798

The statistics regarding the industry's production and kinds of products are very incomplete. The following partial list only gives a fair idea of the industry's capacity:

Years.	Volume in kin.	Value in yen.
1917	7,500,000	.....
1918	8,957,235	23,339,145
1919	12,449,839	16,563,400
1920 (up to Sept.)	6,060,674	7,783,825

To demonstrate the changes that have taken place during several years past in the Japanese dye trade the imports of coaltar dyes during the years are listed below:—

Years.	Volume in kin.	Value in yen.
1915	1,455,595	2,882,494
1916	541,075	3,437,584
1917	640,266	4,535,986
1918	1,941,804	11,238,021
1919	2,094,211	10,720,919
1920	3,359,899	15,443,034
1921 (up to August)	2,259,739	8,039,818

These imports. according to the countries of exportation, are as follows:

Countries.	In kin 1915.	1916.	1917.	1918.
Germany	1,128,984	425,304	222,234	357,616
Switzerland	126,541	46,778	121,637	125,459
Great Brit.	.....	.....	.....	23,769
France	.....	.....	.....	10,885
U. S.	.....	.....	.....	1,403,896
Others	200,070	68,993	296,395	20,179

	1919.	1920.	1921. to Aug.
Great Britain	93,294	190,375	62,683
France	46,785	138,076	34,880
Germany	36,061	588,664	1,484,434
Switzerland	342,919	97,427	91,597
United States	1,562,395	2,244,046	400,142
Others	12,757	101,311	186,003

	1918 Volume pound	1918 Value yen	1919 Volume pound	1919 Value yen
Solvent	326,780	131,458	693,156	197,041
Sundry	17,822,489	4,468,339	11,651,681	2,761,092
Others	3,666,709	2,300,118	1,405,521	556,540

*Zinc. †Lead.

These do not include zinc oxide and lead white. In the table below, zinc oxide production in 1918 and 1919 is given:—

	Volume pound	Value yen
1918	11,588,031	3,264,911
1919	8,398,976	2,419,032

White lead's production is given below, but it is not inclusive of production of smaller manufacturers:—

	Volume pound	Value yen
1918	1,559,230	397,034
1919	1,054,424	263,175

According to an estimate lately by the government, the total production of 1920 was not much beyond 3,000,000 yen. The production of 1921 is also estimated to have been no more than that. In the following table the export of paints since 1915 is listed:—

Years	Volume in kin	Value in yen
1915	725,268	137,016
1916	994,355	236,484
1917	1,830,137	504,783
1918	11,365,695	4,331,079
1919	2,884,900	1,114,000
1920	1,620,056	667,538
1921 (up to Aug)	684,409	272,884

Japanese paint manufacturers have perfected their zinc oxide, and it is generally claimed that their products are better than American made, but their export is a negligible quantity. The import of zinc oxide is also very small. The quality of paints is still somewhat inferior to that of British paints, which are quoted on the average at 20 to 30 per cent. above the Japanese. The import of foreign paints is, therefore, still maintained, the quantities and values since 1913 being as follows:—

Years	Volume in kin	Value in yen
1913	1,755,167	444,928
1914	1,298,461	339,735
1915	884,566	276,685
1916	1,120,368	531,402
1917	734,527	331,336
1918	484,550	242,622
1919	729,088	435,130
1920	994,614	600,996
1921 (up to Aug.)	525,498	306,343

How the Sicilian Sulphur Industry Has Declined

Until recent years Sicily was the most important factor in the world's supply of sulphur, but it has now been displaced by the American industry, which has developed a very large production owing to the easy extraction of this mineral from the Louisiana and Texas mines, according to a report from the United States consul at Palermo.

The production of sulphur in Sicily rose from 120,000 tons in 1860 to 538,534 tons in 1905. In 1919 production decreased to 181,374 tons, but rose to 219,844 tons in 1920. On the other hand, the production of American sulphur increased from 893 long tons in 1883 to 25,000 tons in 1903 and 491,080 tons in 1913, and reached 1,255,249 long tons (preliminary figures of the United States Geological Survey) in 1920. Besides these two countries, Japan, with an output of about 50,000 tons, is the only other important source of sulphur.

From 1860 to 1876 the price of sulphur averaged 140 lire per metric ton. This was so remunerative that it encouraged exploration and production, with the consequent result that the price diminished gradually after 1876 until 1895, when it reached the low price of 55 lire per ton.

With a view to relieving the situation brought about by an attempted cornering of the market in 1896, a company was organized in London with a paid up capital of 20,000,000 lire, called the Anglo-Sicilian Sulphur Company, Ltd., for the purpose of controlling the production of sulphur in Sicily, purchasing this product at a uniform price satisfactory to the producers and reselling it at a reasonable profit. This arrangement lasted until 1906, when the company was dissolved. Its operation had not met with the desired success, because only about 60 per cent. of the mine owners joined the syndicate, which was therefore unable to control the sales; and in view of the American competition, which began to make itself felt, a large reserve stock had accumulated, the disposal of which was a problem.

This prompted the government to take a hand. A compulsory consortium or syndicate was formed on August 1, 1906, in which all producers had to combine for a period of twelve years. The consortium was to fix the price of sulphur periodically and, when necessary, to limit the production. It was to be operated by a director general with an administrative council. Upon its expiration the life of the consort'um was extended for another eighteen years.

During the existence of the Anglo-Sicilian arrangement this company came to a private agreement with a company in the United States as to the division of foreign fields for the marketing of sulphur. This arrangement was continued in the early years

DRYING MACHINERY

for Paint Pigments, Chemicals, etc.

Users of "Proctor" Dryers—and there are hundreds of them—all say it's a wonderful satisfaction to know that their products are being dried exactly as they wish, in the least possible time and at the minimum cost.

It's a great satisfaction also to know that the makers of "Proctor" Dryers have specialized in the manufacture of drying machinery since 1883 and have earned an outstanding reputation for the excellence of their service and responsibility toward their products—

"Proctor" DRYERS

With a "Proctor" Dryer in your plant, drying will become a dependable mechanical process—systematic, keeping to schedule, efficient and economical beyond the best records of any other equipment. Uniformly perfect drying results will be easily and accurately controlled.

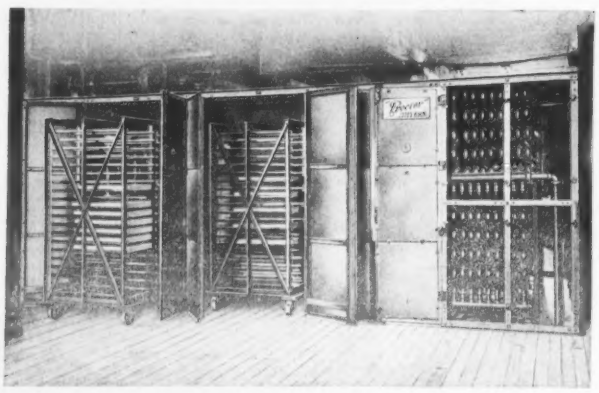
Send for our Catalogue No. 58. It introduces many different types of "Proctor" Dryers for Paint Colors, Lithopone, White Lead, General Chemicals, Dyes and Pharmaceuticals.

PROCTOR & SCHWARTZ, Inc.

Formerly The Philadelphia Textile Machinery Co.

PHILADELPHIA, PA.

New York Chicago



(Panels removed to show interior)

One of five "Proctor" Dryers (truck type) in the plant of John Lucas & Co., Inc., Gibbsboro, N. J.—this type of dryer is the one most widely used for Paint Colors, Aniline Dyes, etc. Other types of "Proctor" Dryers include Cabinet-Tray, Tunnel-Truck and Automatic-Tray models, as well as a unique Rotary Dryer.

of the consortium, after which it was abruptly terminated and American sulphur began to enter the European market. Rotterdam, Hamburg and Antwerp became centers of distribution for the American product in Northern Europe and Marseilles in the Mediterranean. In the latter place a large plant was established for the preparation of refined, ground and other varieties to compete with similar Sicilian products.

During the war sulphur, which was required for the production of ammunition, was in great demand, but, owing to the lack of tonnage, the shipment of American sulphur to Europe was interrupted. The Italian Government commandeered the sulphur trade, authorizing exportation only with special permits. Now that freights are again normal, American sulphur exporters are everywhere underbidding the Sicilian product. In fact, the American quotation c. i. f. Hamburg, delivery weight, was at the beginning of June, 1921, 1,320 marks, while Sicily was quoted about 3,000 marks. The Sicilian product has been completely displaced in the important Scandinavian markets and is facing keen competition.

It is said that American sulphur is superior to the Sicilian for the chemical industries. However, the latter is preferred locally for the vineyards, where it is used to protect the foliage against parasites, because it is said that flour milled product from the United States does not adhere to the leaf to the same extent as does the Sicilian. Partly for this reason and partly because of their geographical location, France, Spain, Portugal, Algeria and Greece still look to Sicily for sulphur to be used in their vineyards.

	Export. Tons.	Production. Tons.	Stocks. Tons.	Export to U. S. A. and Canada. Tons.
1890.....	355,140	.....	107,000	100,860
1891.....	302,170	.....	117,000	100,450
1892.....	318,850	.....	175,000	86,990
1893.....	359,700	.....	210,000	86,42
1894.....	338,820	.....	199,000	108,9
1895.....	358,080	.....	204,000	102,6
1896.....	408,850	.....	223,000	130,7
1897.....	422,910	443,418	224,860	122,0
1898.....	460,800	465,021	235,022	143,5
1899.....	493,460	521,982	262,087	132,7
1900.....	574,460	516,789	242,438	167,3
1901.....	472,840	537,679	306,903	146,1
1902.....	481,280	501,021	329,836	174,41
1903.....	489,380	536,044	383,524	161,520
1904.....	490,090	499,332	370,606	104,120
1905.....	469,730	528,354	462,865	73,280
1906.....	399,100	475,553	537,588	42,540
1907.....	343,950	403,538	598,709	9,790
1908.....	377,610	404,297	616,419	8,624
1909.....	364,953	402,353	647,880	14,709
1910.....	395,944	397,808	641,249	12,060
1911.....	456,227	376,161	551,422	8,545
1912.....	447,590	356,555	450,917	2,856
1913.....	414,716	345,548	376,365	1,028
1914.....	338,308	334,974	369,091	1,919
1915.....	359,806	319,260	523,860	2,054
1916.....	396,035	233,835	155,372	612
1917.....	162,971	177,453	156,800	.....
1918.....	230,769	194,585	112,650	.....
1919.....	147,755	181,374	136,859	.....
1920.....	190,173	219,844	147,886	165

The Leading Authority in Its Field

¶ The Oil, Paint and Drug Reporter is the leading authority in the fields it covers. It is read regularly—52 times a year—by the men who dictate the buying policies of the following industries:—

Chemicals and Allied Products; Coal-Tar Bases and Intermediates; Coal-Tar Colors; Natural and Chemical Dyestuffs; Drugs and Pharmaceutical Chemicals; Fertilizer Materials; Animal, Mineral, Fish and Vegetable Oils; Paints, Varnishes, Glass and Naval Stores.

¶ The capital invested in these industries totals nearly five billion dollars. Practically every person, firm or corporation in these industries is a regular subscriber for the Oil, Paint and Drug Reporter.

¶ As a means of reaching the buyers in these industries, the Oil, Paint and Drug Reporter stands supreme. It has reached this preeminent position during a half century of service and constructive endeavor, under the same control.

¶ An analysis of the subscription list of the Reporter, based on answers received to a carefully prepared questionnaire, discloses that

Seventy per cent. of the readers of the Reporter are proprietors or executive officers;

Sixty-three per cent. are purchasing officers or buyers.

¶ Do YOU sell to these industries?

¶ If you do, and you have not utilized the advertising pages of the Oil, Paint and Drug Reporter, you are neglecting the most important connecting link between yourself and the buyers in these industries.

¶ The real buyers in these important industries may be more intimately reached through the pages of the Oil, Paint and Drug Reporter than in any other way.

Write for Advertising Rates

Oil, Paint and Drug Reporter

The Key to a Five-Billion Dollar Market

100 William Street **New York City**

50-Year Record of Imports into the United States, 1871-1921

The following tables, compiled from official records, give, wherever figures are obtainable, import data, quantity and value for the years 1871, 1881, 1891, 1901, and from 1913 to 1921 inclusive. Where statistics are missing for any of the years indicated it is due to the fact that official records were not kept and the figures are, therefore, unavailable.

Abrasives, Pumice Stone, Unmanufactured.

	Tons.	Dollars.
1871	.....	6,448
1881	.....	19,052
1891	.....	52,414
1901	.....	28,618
1913	5,558	44,474
1914	7,065	57,427
1915	6,060	47,469
1916	8,650	69,311
1917	7,205	76,620
1918	3,900	34,062
1919	1,139	17,196
1920	10,933	145,984
1921	4,488	64,218

Abrasives, Pumice Stone, Wholly or Partially Manufactured.

	Pounds.	Dollars.
1913	3,845,326	17,417
1914	6,484,875	28,280
1915	6,013,747	27,152
1916	5,016,012	44,186
1917	7,796,173	64,805
1918	3,238,776	34,262
1919	1,746,024	23,108
1920	6,303,302	63,853
1921	6,783,635	79,727

Abrasives, Rottenstone and Tripoli.

		Dollars.
1881	.....	3,848
1891	.....	.....
1901	.....	24,556
1913	.....	30,621
1914	.....	20,858
1915	.....	24,796
1916	.....	38,613
1917	.....	23,315
1918	.....	14,551

Stated separately after 1918.

Abrasives, Rottenstone.

	Tons.	Dollars.
1919	13	1,486
1920	461	6,125
1921	90	4,747

Abrasives, Tripoli.

	Tons.	Dollars.
1919	247	7,232
1920	411	8,483
1921	324	9,423

Acetnaphthalene, Cumol, Fluorene, Methyl-anthracene and Methyl-naphthalene

	Pounds.	Dollars.
1920	15,759	946
1921	.....	.....

Not stated prior to 1920.

Acetone.

	Pounds.	Dollars.
1914	2,760	307
1915	235,917	21,105
1916	179,497	14,424
1917	.....	.....
1918	148,082	26,910
1919	443,504	80,986
1920	.....	.....
1921	6,654	311

Not stated prior to 1914.

Acetanilide

	Pounds.	Dollars.
1914	1,060	164
1915	800	389
1916	.....	.....
1917	15	22
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	10	16

Not stated prior to 1914.

Acetphenetidin.

	Pounds.	Dollars.
1915	39,990	27,356
1916	203	1,532
1917	3,280	40,352
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Not stated prior to 1915.

Acid, Acetic Anhydrid.

	Pounds.	Dollars.
1913	309,643	51,632
1914	150,892	23,240
1915	3,652	1,019
1916	18,177	10,013
1917	9,060	7,485
1918	13,112	16,533
1919	10,948	14,780
1920	.....	.....
1921	.....	.....

Acid, Acetic or Pyroligneous.

	Pounds.	Dollars.
1871	146	120
1881	4,223	942
1891	10,946	1,036
1901	291,801	21,182
1913	39,648	3,036
1914	27,750	1,952
1915	312,850	16,419
1916	504,858	53,969
1917	201,604	28,492
1918	264,997	47,073
1919	1,252,649	224,482
1920	2,925,076	339,178
1921	859,755	108,090

Acid, Acetylsalicylic (Aspirin).

	Pounds.	Dollars.
1914	22,841	11,873
1915	112,602	53,792
1916	229	311
1917	501	2,136
1918	1,100	3,300
1919	26	76
1920	.....	.....
1921	.....	.....

Not stated prior to 1914.

Acid, Amidosalicylic

	Pounds.	Dollars.
1920	11,199	8,182
1921	.....	.....

Not stated prior to 1920.

Acid, Arsenic or Arsenious.

	Pounds.	Dollars.
1882	52,572	2,285
1891	.....	.....
1901	497,916	20,486
1913	5,164,768	203,525
1914	3,034,351	110,179
1915	2,789,531	106,530
1916	2,458,694	104,988
1917	1,984,480	159,429
1918	3,746,246	384,964
1919	7,074,429	611,398
1920	5,809,178	414,867
1921	6,733,163	511,098

Acid, Benzoic.

	Pounds.	Dollars.
1871	.....	5,571
1881	8,813	13,299
1891	.....	.....
1901	262,697	93,667
1913	863,015	133,887
1914	278,896	51,791
1915	132,666	25,442
1916	25,155	79,856
1917	13,547	52,988
1918	2,354	16,390
1919	125	1,114
1920	313	1,461
1921	240	165

Acid, Boracic.

	Pounds.	Dollars.
1871	1,204,049	185 477
1881	187,053	15,771
1891	666,865	40,919
1901	648,594	23,485
1913	362,400	13,897
1914	527,201	22,390
1915	401,684	18,002
1916	424,219	22,145
1917	404,210	24,590
1918	195,650	14,087
1919	280,935	31,170
1920	253,958	11,165
1921	227,461	19,049

Acid, Carbolic

	Pounds.	Dollars
1871	.....	8,071
1881	115,691	48,691
1891	1,140,924	134 234
1901	1,808,026	260,851

Stated separately for later years.

Acid, Carbolic (Not Phenol).

	Pounds.	Dollars.
1917	495,813	34,355
1918	127,574	11,198
1919	2,021,165	194,589
1920	157,319	13.243
1921	183,709	20,906

Not stated prior to 1917.

Acid, Carbolic (Phenol).

	Pounds.	Dollars.
1913	8,345,631	688,771
1914	8,393,216	531,535
1915	3,106,445	179,685
1916	2,246,256	154,841
1917	772,667	56,878
1918	560,276	62,325
1919	95,861	31,963
1920	30	14
1921	1,260	372

Acid, Chromic.

	Pounds.	Dollars.
1871	.....	5
1881	124	89
1891	.....	1,742
1901	46,993	9,881
1913	8,522	1,682
1914	7,778	1,220
1915	6,505	1,394
1916	.....	.....
1917	.....	.....
1918	9,512	1,857
1919	.....	.....
1920	.....	.....
1921	1,100	90

Acid, Citric.

	Pounds.	Dollars.
1871	184,662	105,816
1881	38,983	19,750
1891	45,197	15,482
1901	76,805	23,039
1913	8,677	2,916
1914	652,210	204,347
1915	722,434	447,131
1916	171,877	107,603
1917	157,528	91,463
1918	196,590	126,066
1919	680,147	632.294
1920	1,621,577	1,426.195
1921	770,331	632,780

Acid, Fluoric and Hydrofluoric.

	Pounds.	Dollars.
1901	242	15
1913	12	5
1914	305	22
1915	150	11
1916	17	33
1917	.....	.....
1918	1	2
1919	.....	.....
1920	.....	.....
1921	.....	.....

Acid, Formic.

	Pounds.	Dollars.
1913	502,685	22,414
1914	1,119,745	48,826
1915	534,895	30,641
1916	131,719	19,627
1917	385,463	95,074
1918	.....	.....
1919	.....	.....
1920	210,621	46 922
1921	413,867	66,775

Acid, Gallic.

	Pounds.	Dollars.
1871	50	70
1881	16	31
1891	.....	.....
1901	21,461	9,704
1913	51,326	17,080
1914	61,635	20,429
1915	41,558	14,992
1916	5,101	1,965
1917	.....	.....
1918	8,643	9,708
1919	22	26
1920	.....	.....
1921	.....	.....

Acid, Glycerophosphoric, Salts and Compounds.

	Pounds.	Dollars.
1914	24,789	23,006
1915	15,933	17,678
1916	7,668	8,242
1917	5,853	9,249
1918	961	1,884
1919	2,630	6,967
1920	7,143	12,451
1921	8,287	10.229

Not stated prior to 1914.

Acid, Hydrochloric or Muriatic.

	Pounds.	Dollars.
1871	.....	3 595
1881	.....	.....
1891	.....	.....
1901	10,278	430
1913	440	14
1914	254,480	1,450
1915	3,532,076	20,884
1916	4,215,491	27,292
1917	1,108,308	8,191
1918	2,254,210	18,449
1919	3,648,095	37,989
1920	4,454,308	56,828
1921	4,101,080	48,584

Acid, Lactic.

	Pounds.	Dollars.
1913	158,754	19,029
1914	276,237	30,423
1915	143,291	26,787
1916	17,845	10,030
1917	100	160
1918	330	544
1919	.....	.....
1920	17,939	6,517
1921	301,784	77,342

Acid, Nitric.

	Pounds.	Dollars.
1871	.....	2,278
1881	.....	45
1891	.....	.....
1901	45,857	934
1913	100	8
1914	.....	.....
1915	356,558	17,776
1916	224,699	11,487
1917	13	2
1918	9,444,028	665,071
1919	8,000,867	589,501
1920	.....	.....
1921	47,754	4,180

Acid, Oxalic.

	Pounds.	Dollars.
1871	414,044	61,613
1881	833,407	69,908
1891	2,743,222	200,595
1901	5 622,909	300,879
1913	8,046,380	402,960
1914	8,780,857	433,783
1915	4,496,679	262,422
1916	522,549	166,117
1917	1,183,256	527,827
1918	757,555	311,290
1919	456,698	154,041
1920	1,375,550	372.982
1921	1.824,867	482,758

Acid, Phosphoric.

	Pounds.	Dollars.
1901	175,910	31,841
1913	504,383	76,907
1914	528,827	63,222
1915	265,193	39,120
1916	71,568	12,937
1917	13,666	4,225
1918	17,711	7,044
1919	6,431	4.186
1920	80.160	27,837
1921	253,700	68,189

Acid, Phthalic.

	Pounds.	Dollars.
1901	31,336	17,560
1913	75,695	20,511
1914	63,574	15,597
1915	17,925	4,498
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Acid, Picric, or Nitro Picric.

	Pounds.	Dollars.
1872	.....	40,119
1881	.....	42,904
1891	.....	.....
1901	31,638	8,554
1913	85,068	18,339
1914	.....	.....
1915	20,091	4,278
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	3,240,500	254,385
1920	.....	.....
1921	.....	.....

Acid, Pyrogallic.

	Pounds.	Dollars.
1901	.....	37,789
1913	9,512	9,278
1914	23,015	20,496
1915	10,594	9,514
1916	169	227
1917	.....	.....
1918	275	547
1919	.....	.....
1920	.....	.....
1921	899	2,094

Acid, Salicylic.

	Pounds.	Dollars.
1901	222.761	76,786
1913	31,844	6.500
1914	18,821	4,425
1915	82,617	24,408
1916	160	386
1917	5,033	3,114
1918	21,354	20,883
1919	6	2
1920	.....	.....
1921	.....	.....

Acid, Silicic.

	Pounds.	Dollars.
1901	25	3
1913	121,344	6,486
1914	.....	.....
1915	3,086	586
1916	15	6
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	110	17

Acid, Stearic or Stearin.

	Pounds.	Dollars.
1891	.....	2,638
1901	.....	.....
1913	119,619	12,160
1914	100,088	9,593
1915	32,795	3,465
1916	40,979	6,029
1917	538	75
1918	.....	.....
1919	.....	.....
1920	4,044	867
1921	12,662	1,750

Acid, Sulphuric, or Oil of Vitriol.

	Pounds.	Dollars.
1871	8,509	642
1881	3,841	276
1891	15,377	836
1901	79,120	2,335
1913	34,624	512
1914	6,725,990	40,559
1915	7,382,139	44,068
1916	6,286,490	61,352
1917	667,008	6,617
1918	2,822,527	358,904
1919	11,339,480	100,489
1920	9,221.723	79.204
1921	10,365,450	93,937

Acid, Tannic or Tannin.

	Pounds.	Dollars.
1871	21	26
1881	1,041	469
1891	659	239
1901	2,007	1,092
1913	1,540	778
1914	12,892	4,326
1915	49,493	17,047
1916	2,229	684
1917	160	41
1918	5,442	1,424
1919	96,831	41,675
1920	33,458	20,169
1921	46,934	21,735

Acid, Tartaric.

	Pounds.	Dollars.
1871	288 525	85,830
1881	64	33
1891	1,511	468
1901	1.068	299
1913	78,942	15,747
1914	848,575	203,850
1915	820,105	273,880
1916	198,873	84,373
1917	268,180	162,478
1918	384,262	231.099
1919	321,236	218,441
1920	798,667	529.231
1921	2,103,131	1,004.349

Acid, Valerianic.

	Pounds.	Dollars.
1901	1,172	818
1913	1,019	860
1914	1,161	750
1915	2,163	1,774
1916	900	399
1917	50	491
1918	845	5,011
1919	.....	.....
1920	700	2.278
1921	435	1,342

Acids, All Other Not Specially Provided For.

	Pounds.	Dollars.
1871	.....	93,273
1881	.....	350,080
1891	.....	380,054
1901	.....	42,538
1913	.....	86,539
1914	.....	94,078
1915	.....	73,848
1916	.....	36,430
1917	.....	85,257
1918	.....	510,091
1919	14,025	58,915
1920	52,758	25,200
1921	106,746	28,096

Quantity not stated prior to 1919.

Aconite.

	Pounds.	Dollars
1872	19,591	1,586
1881	5,883	455
1891	2.761	266
1901	1,130	113
1913	12,946	1,065
1914	4,267	321
1915	8,821	962
1916	6,720	538
1917	34,285	8,724
1918	475	119
1919	22,320	4,462
1920	31.471	8,881
1921	10,854	2,452

Acorns, Raw, but Unground.

	Pounds.	Dollars.
1913	7,165	216
1914	3.613	208
1915	4,395	198
1916	.....	.....
1917	2,420	41
1918	550	36
1919	.....	.....
1920	22,680	900
1921	1,048	98

Agar-Agar.

	Pounds.	Dollars
1914	189.232	54,319
1915	344,119	92,809
1916	332,931	110,410
1917	431,622	162,527
1918	246,988	91,442
1919	338,307	172,832
1920	443,116	247,404
1921	199,584	98,722

Not stated prior to 1914.

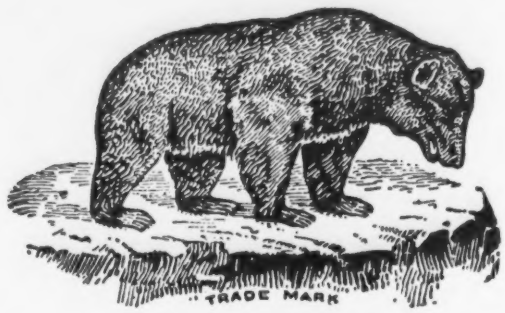
Albumen, Egg or Blood

	Pounds.	Dollars.
1871	.....	135,017
1881	.....	215,555
1891	.....	119,441
1901	396,314	110,702
1913	1,246,744	406,594
1914	1,574,271	487,905

Stated separately after 1914; see following classes.

Albumen, Egg, Dried.

	Pounds.	Dollars.
1915	1,269,398	402,996
1916	1,670,996	751,996
1917	2,669,254	1,443,936
1918	3,727,998	2,450,143
1919	1,427,240	1,141,431
1920	4,716.241	3.184,229
1921	2,568.240	2,606.352

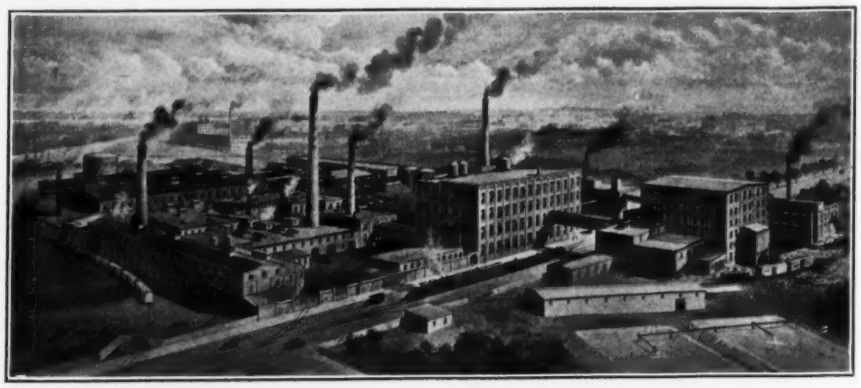


REGISTERED

THE BEAR LAMP BLACKS

ARE THE

Standard of America



FACTORY—CAMDEN, N. J.

CHEMICAL DEPARTMENT

MANUFACTURERS OF

Mono Calcium Phosphate
Di-Calcium Phosphate
Calcium Phosphate Precipitated
Phosphoric Acid
Phosphoric Acid Paste

Wilckes-Martin-Wilckes Co.

135 William Street, New York

Albumen, Egg, Frozen or Liquid.

	Pounds.	Dollars.
1915	691,081	92,307
1916	1,451,376	201,509
1917	2,989,685	316,762
1918	2,014,629	250,132
1919	1,744,511	197,658
1920	2,875,639	587,368
1921	4,461,999	618,953

Albumen, Not Otherwise Provided For.

	Pounds.	Dollars.
1913	15,831	3,421
1914	382,589	58,175
1915	258,057	48,941
1916	81,787	25,615
1917	106,200	34,057
1918	671	260
1919	1,242	768
1920	37,030	21,395
1921	7,651	3,707

Alcohol, Grain.

	Proof gallons.	Dollars.
1891	8,794	7,623
1901	.....	.....
1913	135,250	22,780
1914	109,830	19,365
1915	40,532	5,707
1916	59,198	7,285
1917	4	8
1918	69	20
1919	290	289
1920	.....	.....
1921	27	34

Alcohol, Methyl or Wood.

	Gallons.	Dollars.
1913	362	387
1914	109,022	42,598
1915	39,485	11,880
1916	46,829	9,496
1917	11,267	4,502
1918	205,276	202,994
1919	4,375	11,141
1920	566	1,956
1921	214,328	525,730

Alizarin, Natural or Artificial, and Dyes Derived Therefrom.

	Pounds.	Dollars.
1881	.....	898,539
1891	344,492	674,919
1901	4,046,986	713,392
1913	8,219,087	1,824,973
1914	806,764	246,196

Stated as following class after October 3, 1913.

Alizarin and Derivatives, Natural or Synthetic, and Dyes Derived from.

	Pounds.	Dollars.
1914	1,828,074	599,648
1915	5,992,978	1,586,367
1916	71,834	44,282
1917	99,057	127,240

Stated separately after 1917.

Alizarin, Natural.

	Pounds.	Dollars.
1918	115,133	160,775
1919	1,741	5,155
1920	4,943	3,457
1921	77,551	62,404

Alizarin, Synthetic.

	Pounds.	Dollars.
1918	19,180	55,179
1919	.....	.....
1920	58,810	18,785
1921	122,246	45,221

Alizarin Colors or Color Lakes

	Pounds.	Dollars.
1918	2,540	11,208
1919	6,284	9,121
1920	19,634	17,161
1921	144,076	204,859

Alizarin Dyes

	Pounds.	Dollars.
1918	2,759	10,698
1919	4,025	3,397
1920	19,393	9,475
1921	89,011	117,983

Alkalies, Alkaloids and Other Chemical Compounds Not Containing Alcohol.

	Pounds.	Dollars.
1919	3,324,626	871,031
1920	6,849,393	1,053,933
1921	9,009,045	1,147,113

Not stated prior to 1919.

Alum, Alum Cake, Patent Alum, Sulphate of Alumina and Aluminous Cake.

	Pounds.	Dollars.
1871	4,712,840	74,450
1881	2,086,950	22,331
1891	4,652,985	58,864
1901	2,120,119	21,179
1913	4,129,160	39,944
1914	4,119,481	47,759
1915	3,904,561	41,166
1916	2,482,663	45,491
1917	1,636,989	56,768
1918	996,798	32,779
1919	220,967	7,915
1920	1,062,041	37,777
1921	3,069,682	71,135

Alumina, Hydrate of, or Refined Bauxite.

	Pounds.	Dollars.
1901	4,584,477	199,950
1913	2,252,156	37,812
1914	1,639,027	26,328
1915	202,968	3,680
1916	418	260
1917	.....	.....
1918	94,278	7,562
1919	.....	.....
1920	.....	.....
1921	2,549	963

Aluminum, in Crude Form, Scrap and Alloys of Which Aluminum Composes Chief Value.

	Pounds.	Dollars.
1871	.....	341
1881	517	6,071
1891	10,383	15,582
1901	62,342	29,198
1913	26,642,112	4,247,180
1914	16,421,076	2,801,911
1915	13,925,919	2,364,044
1916	8,203,895	1,823,106
1917	1,904,000	558,897
1918	1,503,360	480,782
1919	5,548,784	1,748,691
1920	30,853,386	9,595,122
1921	35,626,274	9,015,422

Aluminum Leaf.

	100 leaves.	Dollars.
1891	9,768	1,109
1901	102	66
1913	3,531	1,811
1914	1,385	141
1915	15,249	1,901
1916	39,920	5,466
1917	19,161	3,706
1918	50,880	11,636
1919	95,475	19,445
1920	118,159	25,572
1921	243,510	65,759

Amber, Manufactures of.

		Dollars.
1913	.....	7,202
1914	.....	9,332
1915	.....	4,516
1916	.....	5,436
1917	.....	248
1918	.....	721
1919	.....	78
1920	.....	34,145

Ambergris (Not Containing Alcohol).

	Ounces.	Dollars.
1881	.....	55
1891	71	3,731
1901	27	4,266
1913	608	10,964
1914	32	695
1915	1	87
1917	160	2,771
1918	204	3,643
1919	494	1,097
1920	48	540
1921	20	916

Amidophenol.

	Pounds.	Dollars.
1919	500	1,475
1920	438	942
1921	14,623	11,699

Not stated prior to 1919.

Ammonia, Carbonate of.

	Pounds.	Dollars.
1871	1,346,448	112,303
1881	315,537	42,363
1891	912,886	62,293
1901	181,701	12,204
1913	258,376	16,173
1914	391,981	25,195
1915	784,821	49,122
1916	357,280	25,018
1917	244,840	18,264
1918	76,160	6,732
1919	85,762	15,757
1920	271,787	32,288
1921	238,820	21,897

Ammonia, Liquid Anhydrous.

	Pounds.	Dollars.
1891	14,210	5,870
1901	.....	.....
1913	.....	.....
1914	.....	.....
1915	307	35
1916	.....	.....
1917	200	46
1918	2,698	1,039
1919	.....	.....
1920	12,512	4,305
1921	14,038	6,120

Ammonia, Muriate of, or Sal Ammoniac.

	Pounds.	Dollars.
1871	1,083,496	79,551
1881	1,281,867	107,976
1891	3,609,583	195,078
1901	4,772,364	245,163
1913	10,387,148	504,330
1914	9,254,539	470,566
1915	4,788,325	241,713
1916	1,965,464	122,174
1917	1,856,696	178,274
1918	1,000,262	97,994
1919	648,961	92,942
1920	5,295,692	563,130
1921	4,502,056	445,705

Ammonia, Nitrate of.

	Tons.	Dollars.
1914	1,383	132,840
1915	1,037	193,907
1916	.....	.....
1917	87,300	4,015
1918	74,101	4,287
1919	15,755	1,871
1920	18,292,080	1,360,153
1921	28,417,403	1,823,363

Not stated prior to 1914.

Ammonia, Perchlorate of.

	Pounds.	Dollars.
1914	70,253	6,337
1915	72,576	6,515
1916	.....	.....
1917	275	53
1918	465	161
1919	1,768	402
1920	452,356	85,649
1921	4,502,050	413,470

Not stated prior to 1914.

Ammonia, Phosphate of.

	Pounds.	Dollars.
1913	7,433	493
1914	205,764	13,462
1915	71,782	5,394
1916	810	40
1917	1,000	206
1918	1,316	336
1919	.....	.....
1920	.....	.....
1921	14,232	1,787

Ammonia, Sulphate of.

	Tons.	Dollars.
1891	19,808,645	483,196
1901	28,971,761	994,454
1913	61,113	3,660,064
1914	83,597	4,900,058
1915	64,417	3,215,139
1916	19,404	1,371,007
1917	8,176	647,271
1918	3,983	467,999
1919	1,964	288,469
1920	2,586	343,107
1921	2,537	226,300

Aniline Oil.

	Pounds.	Dollars.
1871	.....	169
1881	69,899	18,556
1891	1,480,908	299,662
1901	1,530,950	143,268
1913	2,015,318	171,047
1914	1,444,772	116,628
1915	1,407,305	240,165
1916	104,836	28,130
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	220	72

Aniline Salts.

	Pounds.	Dollars.
1881	.....	66,152
1891	.....	713,732
1901	7,575,515	589,535
1913	4,976,108	371,198
1914	3,083,467	222,728
1915	895,439	130,280
1916	16,084	3,978
1917	.....	.....
1918	21,273	3,250
1919	.....	.....
1920	.....	.....
1921	4	1

Annatto, Roucou, Rocoa or Orleans, and All Extracts of.

	Pounds.	Dollars.
1871	.....	32,657
1881	270,597	37,639
1891	696,429	25,724
1901	412,125	13,498
1913	405,024	19,991
1914	507,250	25,341
1915	809,903	53,174
1916	603,271	69,811
1917	669,445	78,017
1918	749,782	73,294
1919	205,959	12,549
1920	917,932	38,927
1921	697,333	25,133

Anthracene and Carbazole Derivatives (except oil) and Colors and Dyes Derived Therefrom.

	Pounds.	Dollars.
1917	399,300	426,198
1918	35,733	28,018
1919	65,808	82,720
1920	84,751	120,774

Stated separately after 1920.

Anthracene and Carbazole Derivatives —Colors or Color Lakes

	Pounds.	Dollars.
1921	223,324	493,155

Not stated separately prior to 1921.

Anthracene and Carbazole Derivatives —Dyes

	Pounds.	Dollars.
1921	240,718	211,799

Not stated separately prior to 1921.

Anthracene and Anthracene Oil.

		Dollars.
1914	.....	32,175
1915	.....	49,949
1916	.....	2,551
1917	.....	2,258

Stated separately after 1917; see following classes.

Anthracene.

	Pounds.	Dollars.
1918	.....	.....
1919	95,025	3,008

Stated separately after 1919; see below.

Anthracene Oil.

	Gallons.	Dollars.
1918	11,900	2,010
1919	11,185	2,260
1920	12,694	3,284
1921	18,405	6,725

Anthracene, Purity Less Than 25 Per Cent

	Pounds.	Dollars.
1920	7,551	506
1921	197,367	17,012

Not stated prior to 1920.

Anthracene, Purity of 25 Per Cent. or More

	Pounds.	Dollars.
1920	39,430	7,018
1921	822,740	98,448

Not stated prior to 1920.

Anthraquinone

	Pounds.	Dollars.
1920	3,147	2,643
1921	46,327	21,422

Not stated prior to 1920.

Antimony Oxide, Salts and Compounds of.

	Pounds.	Dollars.
1913	1,819,323	97,447
1914	2,623,084	248,164
1915	1,797,265	219,605
1916	511,848	109,814
1917	192,099	46,190
1918	37,724	13,744
1919	267,885	11,378
1920	589,052	20,274
1921	315,427	18,256

Antipyrine.

	Pounds.	Dollars.
1914	7,686	11,608
1915	606	1,085
1916	222	2,202
1917	6,429	46,110
1918	22,736	92,653
1919	14,487	160,902
1920	15,656	72,556
1921	3,836	16,194

Not stated prior to 1914.

Antitoxins, Vaccine Virus, and All Other Animal Serums Used for Therapeutic Purposes.

		Dollars.
1913	.....	5,032
1914	.....	19,019
1915	.....	12,826
1916	.....	8,225
1917	.....	11,460
1918	.....	6,009
1919	.....	6,076
1920	.....	6,907
1921	.....	7,314

Apatite.

	Tons.	Dollars.
1901	152	2,004
1913	2,930	22,535
1914	92	796
1915	.....	.....
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	29	825
1920	70	2,648
1921	72	2,286

Apricot and Peach Kernels.

	Pounds.	Dollars.
1913	18,769	3,086
1914	17,809	2,862
1915	67,164	3,398
1916	11,926	2,497
1917	250,075	21,430
1918	231,465	16,932
1919	72,228	12,411
1920	22,177	9,051
1921	73,479	12,733

Argols or Crude Tartar, or Wine Lees, Crude.

	Pounds.	Dollars.
1871	4,024,731	590,453
1881	13,712,528	2,195,420
1891	21,631,507	2,199,263
1901	29,116,816	2,527,281
1913	29,476,172	2,621,491
1914	5,712,667	545,105

Class dropped under 1913 tariff; see below.

Argols or Crude Tartar, or Wine Lees, Crude or Partly Refined.

	Pounds.	Dollars.
1914	28,810,048	2,654,618
1915	28,814,957	3,122,326
1916	34,602,184	5,233,516
1917	24,142,073	3,886,854
1918	30,364,538	5,312,836
1919	32,399,932	5,336,989
1920	23,578,221	3,282,915
1921	26,569,756	3,042,334

Arrowroot, Unmanufactured.

	Pounds.	Dollars.
1871	592,318	28,889
1881	69,206	8,910
1891	452,960	17,136
1901	64,601	3,908
1913	11,327	688
1914	8,615	316
1915	134	5
1916	5,987	302
1917	30,776	1,613
1918	15,998	2,998
1919	33,752	7,208
1920	1,454,626	73,347
1921	133,361	11,214

Arsenic, and Sulphide of, or Orpiment.

	Pounds.	Dollars.
1871	1,329,693	29,822
1881	2,225,425	54,056
1891	5,343,229	161,367
1901	5,936,629	278,537
1913	8,475,592	334,294
1914	4,148,928	169,614
1915	3,981,661	178,756
1916	2,794,254	122,795
1917	2,373,701	175,811
1918	7,691,028	654,282
1919	7,038,146	563,335
1920	6,470,700	472,710
1921	8,801,293	794,215

Articles Manufactured in the United States Returned — Quicksilver Flasks or Bottles, and Drums Used in Exporting Acids.

		Dollars.
1913	.....	259,123
1914	.....	280,620
1915	.....	180,676
1916	.....	204,642
1917	.....	168,955
1918	.....	393,522
1919	.....	961,168
1920	.....	855,963
1921	.....	895,725

Artists' Colors, in Tubes, Pans, Cakes, Etc.

		Dollars.
1913	.....	136,394
1914	.....	211,306
1915	.....	186,728
1916	.....	129,658
1917	.....	163,958
1918	.....	91,290
1919	.....	85,860
1920	.....	126,026
1921	.....	236,802

Asbestos, Unmanufactured.

	Tons.	Dollars.
1881	.....	27,717
1891	.....	308,498
1901	.....	427,333
1913	76,952	1,760,845
1914	76,458	1,678,782
1915	68,087	1,513,631
1916	98,970	2,625,006
1917	115,772	3,944,823
1918	117,183	5,384,735
1919	117,808	6,503,948
1920	122,817	8,087,782
1921	126,195	7,030,040

Ashes, Wood and Lye of, and Beet Root Ashes.

	Pounds.	Dollars.
1871	.....	40
1881	.....	8,622
1891	.....	42,624
1901	.....	76,306
1913	.....	36,498
1914	.....	27,884
1915	.....	41,522
1916	.....	43,839
1917	.....	55,226
1918	.....	47,982
1919	7,802,589	49,276
1920	8,537,614	44,175
1921	6,212,848	38,609

Quantity not stated prior to 1919.

Asphaltum and Bitumen, Crude, Except Limestone Rock Asphalt.

	Tons.	Dollars.
1871	1,302	14,760
1881	12,883	95,410
1891	78,030	251,137
1901	501,310	204,810
1913	188,725	750,685
1914	45,876	171,981
1915	79,561	405,717
1916	130,039	700,940
1917	161,622	896,989
1918	139,618	851,633
1919	95,214	595,756
1920	91,503	685,998
1921	128,913	1,307,290

Aspirin.

See "Acid, Acetylsalicylic."

Balsam, Balm of Gilead.

	Pounds.	Dollars.
1919	380	9
1920	50	4
1921	160	90

Not stated prior to 1919.

Balsam Copaiba, Crude.

	Pounds.	Dollars.
1871	96,283	34,114
1881	143,258	67,816
1891	171,834	63,253
1901	212,082	57,018
1913	206,447	66,361
1914	245,435	71,339
1915	273,616	59,921
1916	204,464	70,868
1917	308,545	124,122
1918	373,362	202,847
1919	300,659	130,967
1920	426,071	171,398
1921	260,769	69,792

Balsam, Copaiba, Advanced in Value by Any Process.

	Pounds.	Dollars.
1915	74	18
1916	.....	.....
1917	.....	.....
1918	158	110
1919	3,270	1,934
1920	.....	.....
1921	.....	.....

Not stated prior to 1915.

THE BUYING POWER

of the Clientele of the

Oil, Paint and Drug Reporter

IS NEARLY FIVE BILLION DOLLARS

This buying power is made up of the leading concerns in the following great industries

¶Chemicals and Allied Products; Dyestuffs, Natural, Coal Tar and Intermediates; Drugs and Pharmaceutical Chemicals; Fertilizers; Petroleum, Crude and Refined; Animal, Fish and Vegetable Oils; Paints, Varnishes, Glass, Naval Stores.

¶Whether you are a buyer or a seller of any these products you would find it to your financial advantage to advertise in the Reporter, the weekly issues of which are consulted by Manufacturers, Importers, Manufacturing Consumers and Wholesale Distributors in all parts of the world.

¶The Reporter is read by principals—those who have the final say-so—and that is one of the reasons why it has contributed so largely in the upbuilding of the industries it represents, and futhermore it is another reason why it is a great advertising medium.

¶Begin your advertisement in the Reporter at once and thus avail yourself of the wonderful opportunity which it offers for the extension of your business to all parts of the world.

Display Advertising Rates per Insertion

This is a TWO INCH SPACE–

13	weeks	$8.00	per	issue
26	"	7.00	"	"
52	"	6.00	"	"

This is a FOUR INCH SPACE–

13	weeks	$14.00	per	issue
26	"	12.00	"	"
52	"	9.00	"	"

This is a SIX INCH SPACE–

13	weeks	$17.00	per	issue
26	"	15.00	"	"
52	"	12.00	"	"

This is a QUARTER PAGE–

13	weeks	$26.00	per	issue
26	"	24.00	"	"
52	"	19.00	"	"

Oil, Paint and Drug Reporter Inc., 100 William Street NEW YORK CITY

Balsam, Fir or Canada, Crude.

	Pounds.	Dollars.
1871	.....	3,227
1881	15,510	3,333
1891	34,318	6,858
1901	20,728	5,948
1913	5,091	1,827
1914	13,864	12,505
1915	18,619	14,636
1916	7,113	3,034
1917	4,170	3,807
1918	3,698	1,404
1919	2,344	2,140
1920	2,763	3,570
1921	2,006	3,223

Balsam, Fir or Canada, Advanced in Value by Any Process.

	Pounds.	Dollars.
1915	295	154
1916	10	18
1917	25	43
1918	86	151
1919	35	46
1920	174	301
1921	163	288

Not stated prior to 1915.

Balsam, Peru, Crude.

	Pounds.	Dollars.
1871	2,237	3,878
1881	6,561	7,539
1891	10,653	13,104
1901	.....	.....
1913	48,366	61,402
1914	25,021	29,701
1915	27,506	32,735
1916	40,657	112,270
1917	58,933	175,355
1918	44,082	115,035
1919	64,879	163,568
1920	57,752	176,788
1921	50,089	98,422

Balsam, Peru, Advanced in Value by Any Process.

	Pounds.	Dollars.
1918	570	1,465
1919	726	1,817
1920	.....	.....
1921	.....	.....

Not stated prior to 1918.

Balsam, Storax, or Styrax, Crude

	Pounds.	Dollars.
1881	3,432	583
1891	3,325	517
1913	35,861	5,223
1914	5,607	798
1915	11,445	1,550
1916	11,696	5,528
1917	10,892	26,550
1918	14,788	22,616
1919	.....	.....
1920	3,678	3,694
1921	30,445	67,120

Balsam, Tolu, Crude

	Pounds.	Dollars.
1871	15,275	6,516
1881	39,995	18,791
1891	54,244	12,264
1901	56,785	12,010
1913	57,277	29,552
1914	42,138	19,063
1915	39,750	13,993
1916	63,579	17,233
1917	62,820	18,255
1918	49,869	23,996
1919	58,194	44,603
1920	83,829	90,974
1921	27,871	23,101

Balsam, All Other, Crude

	Pounds.	Dollars.
1871	.....	3,227
1881	.....	315
1891	36,329	5,024
1901	54,994	29,231
1913	46,000	12,149
1914	33,311	12,410
1915	5,999	4,214
1916	2,503	1,312
1917	12,649	4,235
1918	34,773	48,560
1919	42,817	60,338
1920	17,330	8,354
1921	31,149	31,992

Barium, Carbonate of, Precipitated

	Pounds.	Dollars.
1913	2,182,517	20,143
1914	4,995,451	46,425
1915	344,588	7,864
1916	6	2
1917	804	177
1918	106,288	1,437
1919	.....	.....
1920	163,509	18,268
1921	1,816,693	45,859

Barium, Chloride of

	Pounds.	Dollars.
1913	2,926,159	26,341
1914	6,110,386	64,563
1915	4,686,029	60,532
1916	50	10
1917	6,614	608
1918	.....	.....
1919	3,290	783
1920	2,520,321	81,988
1921	2,779,966	113,695

Barium, Dioxide (Binoxide) of

	Pounds.	Dollars.
1913	3,507,508	215,509
1914	6,085,798	329,139
1915	4,084,144	317,262
1916	546,442	48,451
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	70,862	12,367
1921	684,640	89,138

Barks, in Crude State, Not Edible

	Pounds.	Dollars.
1901	.....	15,478
1919	400,367	51,274
1920	2,772,957	175,903
1921	4,272,993	242,177

Not stated prior to 1919.

Bark, Cinchona or Other, from Which Quinine May Be Extracted

	Pounds.	Dollars.
1871	1,286,095	697,547
1881	4,219,403	1,846,280
1891	2,672,364	301,085
1901	4,196,419	781,895
1913	3,329,973	354,593
1914	3,654,968	464,411
1915	3,951,196	561,802
1916	3,967,320	777,637
1917	2,531,397	685,936
1918	3,121,958	779,403
1919	3,866,158	803,081
1920	5,242,724	1,132,874
1921	3,566,010	1,334,758

Bark Extracts, for Tanning (Except Hemlock)

	Pounds.	Dollars.
1891	3,310	229
1901	33,934	2,603
1918	4,623,086	170,595
1919	2,928,238	68,861
1920	4,195,625	221,054
1921	6,267,744	380,069

Not stated prior to 1918.

Bark, Hemlock

	Cords.	Dollars.
1871	.....	98,997
1881	102,932	492,561
.....	.....	274,129
1901	16,749	65,313
1913	5,502	31,965
1914	4,483	25,655
1915	3,672	19,967
1916	3,388	17,855
1917	1,118	7,027
1918	270	2,624
1919	969	9,716
1920	2,481	29,454
1921	2,838	32,248

Bark, Mangrove

	Tons.	Dollars.
1913	17,578	374,506
1914	7,743	191,472
1915	8,326	222,066
1916	21,107	581,190
1917	10,565	297,897
1918	3,529	72,956
1919	2,817	125,803
1920	2,544	109,085
1921	7,156	344,413

Baryta, Sulphate of, or Barytes, Unmanufactured

	Tons.	Dollars.
1871	6.03	9,760
1881	.....	.....
1891	2,112	4,852
1901	2,775	6,959
1913	28,358	63,345
1914	32,550	63,270
1915	9,616	21,087
1916	15	245
1917	.....	.....
1918	5	63
1919	35	245
1920	2,058	10,405
1921	23,258	156,387

Baryta, Sulphate of, or Barytes, Manufactured

	Tons.	Dollars.
1891	1,812	19,196
1901	1,802	19,705
1913	4,504	39,519
1914	5,379	42,827
1915	1,755	14,396
1916	.....	2
1917	210	3,813
1918	.....	.....
1919	.....	.....
1920	107	653
1921	509	10,519

Bauxite, Crude

	Tons.	Dollars.
1901	16,763	63,597
1913	30,863	119,848
1914	23,576	86,871
1915	12,870	50,557
1916	3,450	17,194
1917	6,403	22,568
1918	2,238	10,045
1919	2,744	10,577
1920	11,748	77,391
1921	59,135	343,909

Bay Rum, or Bay Water

	Proof gallons.	Dollars.
1913	685	707
1914	483	620
1915	503	672
1916	335	341
1917	249	278
1918	641	796
1919	1,384	2,716
1920	14,532	13,666
1921	5,700	5,829

Beeswax

	Pounds.	Dollars.
1871	16,309	3,902
1881	7,003	1,415
1891	383,725	81,920
1901	217,641	57,219
1913	828,287	254,704
1914	1,412,695	477,745
1915	1,565,338	440,047
1916	2,284,283	618,856
1917	2,711,514	904,557
1918	1,950,513	678,148
1919	2,100,458	783,716
1920	3,919,810	1,354,782
1921	2,215,332	693,551

Beet Pulp, Dried

	Pounds.	Dollars
1920	26,531,967	537,965
1921	70,728,443	1,168,627

Not stated prior to 1920.

Benzaldehyde

	Pounds.	Dollars.
1919	955	716
1920	32,906	23,002
1921	2	4

Not stated prior to 1919.

Benzol

	Pounds.	Dollars.
1917	3,175,906	273,108
1918	3,073,948	216,640
1919	1,509,861	38,209
1920	170,519	2,547
1921	1,717,936	42,537

Not stated prior to 1917.

Benzylchloride

	Pounds.	Dollars.
1920	1,150	452
1921	.....	.....

Not stated prior to 1920.

Binitrotoluol (Dinitrotoluol)

	Pounds.	Dollars.
1917	110,461	13,612
1918	34,930	5,726
1919	2,428	461
1920	4,468	870
1921	5,856	1,371

Not stated prior to 1917.

Bismuth (Metal)

	Pounds.	Dollars.
1871	.....	.....
1881	.....	.....
1891	116,174	47,047
1901	156,782	83,209
1913	151,030	210,747
1914	133,190	251,284
1915	34,237	257,176
1916	64,281	241,448
1917	88,465	72,587
1918	75,611	155,925
1919	76,539	196,113
1920	75,781	207,098
1921	96,692	218,376

Blanco Polish

		Dollars.
1913	.....	97,489
1914	.....	159,670
1915	.....	.....
1916	.....	.....
1917	.....	21,854
1918	.....	17,997
1919	.....	17,743
1920	.....	21,229
1921	.....	53,458
		24,821
		18,953
		36,387
		17,999

Blanc Fixe, or Artificial Sulphate of Barytes, and Satin White or Artificial Sulphate of Lime

	Pounds.	Dollars.
1871	147,464	5,910
1881	11,330	2,027
1891	173,772	3,207
1901	2,328,525	28,481
1913	4,808,726	58,499
1914	4,752,474	60,941
1915	2,233,369	25,748
1916	492,723	11,523
1917	408,163	19,029
1918	179,200	2,376
1919	1,285	90
1920	41,108	1,267
1921	1,090,364	19,291

Bleacher's Blue

		Dollars.
1913	.....	4,143
1914	.....	14,922
1915	.....	14,125
1916	.....	14,922
1917	.....	19,048
1918	.....	5,166
1919	.....	5,107
1920	.....	2,433
1921	.....	2,491

Bloodchar

	Pounds.	Dollars.
1913	2,954	333
1914	26,674	1,789
1915	14,167	1,196
1916	15	16
1917	.....	.....
1918	.....	.....
1919	10,732	441
1920	.....	.....
1921	101,787	1,735

Blood, Dried

	Pounds.	Dollars.
1871	.....	676
1881	.....	.....
1891	.....	1,504
1901	.....	138
1914	.....	391,947
1915	.....	227,648
1916	.....	196,660
1917	.....	379,067
1918	.....	473,518
1919	14,281,776	518,030
1920	18,457,530	678,948
1921	7,412,980	260,669

Quantity not stated prior to 1919.

Blues, Such as Berlin, Prussian, Chinese, Etc., in Pulp, Dry or Ground In, or Mixed With Oil or Water

	Pounds.	Dollars.
1871	19,185	7,133
1881	47,031	8,859
1891	181,451	48,074
1901	154,753	40,234
1914	273,174	50,149
1915	547,209	112,904
1916	185,294	110,901
1917	373,074	209,524
1918	13,867	15,009
1919	8,222	5,879
1920	297,256	120,726
1921	275,757	124,204

Bone Black, Lamp Black, Etc.

	Pounds.	Dollars.
1891	.....	32,926
1901	.....	47,946
1913	.....	31,056
1914	.....	27,604
1915	.....	24,459
1916	.....	2,396
1917	.....	6,388
1918	.....	279
1919	69,977	5,118
1920	318,272	26,663
1921	439,126	28,757

Quantity not stated prior to 1919.

Bone Char, or Bone Black, Not Suitable for Use as Pigment

		Dollars.
1901	.....	2,082
1913	.....	12,484
1914	.....	77,717
1915	.....	120,715
1916	.....	86,724
1917	.....	89,163
1918	.....	11,865
1919	.....	69,813
1920	.....	312,330
1921	.....	433,712

Bones, Crude

	Pounds.	Dollars.
1871	.....	27,183
1881	.....	312,697
1891	.....	332,911
1901	.....	353,184
1913	.....	565,566
1914	.....	820,730
1915	.....	756,015
1916	.....	755,700
1917	.....	826,142
1918	.....	1,010,871
1919	26,275,886	360,583
1920	94,593,269	1,500,142
1921	155,409,170	2,526,323

Quantity not stated prior to 1919.

Bone Dust, or Animal Carbon and Ash, Fit Only for Fertilizer

	Tons.	Dollars.
1881	.....	19,666
1891	6,614	122,717
1901	2,185	38,097
1913	33,919	818,307
1914	41,446	1,036,403
1915	23,440	584,748
1916	20,595	527,079
1917	14,805	383,541
1918	8,428	285,882
1919	3,970	92,588
1920	6,867	248,176
1921	27,413	1,417,886

Borax, Crude

	Pounds.	Dollars.
1871	5	1
1881	.....	.....
1891	82,642	9,650
1901	501,137	18,291
1913	11,768	882
1914	686	93
1915	.....	.....
1916	.....	.....
1917	83	3
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Bort

		Dollars.
1871	.....	17
1881	.....	51,409
1891	.....	142,818
1901	.....	782,926
1913	.....	94,043
1914	.....	86,717
1915	.....	71,548
1916	.....	54,974
1917	.....	156,983
1918	.....	297,939
1919	.....	676,095
1920	.....	3,591,776
1921	.....	1,037,852

Bottle Caps, Collapsible Tubes and Sprinkler Tops, Not Decorated

		Dollars.
1913	.....	24,123
1914	.....	50,425
1915	.....	28,420
1916	.....	15,106
1917	.....	13,899
1918	.....	9,607
1919	.....	27
1920	.....	741
1921	.....	1,799

Bottle Caps, Collapsible Tubes and Sprinkler Tops, Decorated, Etc.

		Dollars.
1913	.....	203,357
1914	.....	547,034
1915	.....	214,522
1916	.....	178,081
1917	.....	190,864
1918	.....	55,532
1919	.....	11,118
1920	.....	73,551
1921	.....	46,733

Bristles.

1871	581,429	721,518
1881	891,877	935,118
1891	1,522,115	1,502,827
1901	50,449	21,983

Bristles, Crude, Not Sorted, Bunched or Prepared.

	Pounds.	Dollars.
1913	18,913	13,306
1914	27,036	25,280
1915	45,467	3,336
1916	92,300	15,239
1917	128,894	52,431
1918	33,483	44,145
1919	45,754	64,062
1920	100,737	148,938
1921	80,203	275,747

Bristles, Sorted, Bunched, or Prepared.

	Pounds.	Dollars.
1901	1,543,486	1,012,563
1913	3,479,606	3,319,904
1914	3,551,081	3,255,554
1915	3,726,025	3,348,533
1916	3,514,909	3,456,452
1917	4,456,284	4,678,801
1918	3,873,252	4,643,042
1919	3,358,111	4,509,516
1920	4,109,222	8,203,803
1921	4,008,241	8,534,333

Bronze, or Dutch Metal, in Leaf.

	100 leaves.	Dollars.
1871	.....	15,492
1881	.....	45,307
1891	.....	183,249
1901	983,371	87,804
1913	763,071	104,329
1914	792,578	110,316
1915	896,038	110,163
1916	291,396	38,559
1917	306,497	81,277
1918	473,835	136,394
1919	158,516	38,114
1920	246,944	71,535
1921	219,857	58,447

Bronze Powder, Brocades, Flitters and Metallics.

	Pounds.	Dollars.
1891	130,367	19,555
1901	1,969,025	611,467
1913	1,405,502	420,308
1914	1,403,091	406,249
1915	1,063,206	288,054
1916	161,409	96,852
1917	524,032	283,976
1918	61,785	34,153
1919	11,099	5,093
1920	138,253	82,294
1921	745,041	288,435

Brown, Spanish, Indian Red and Colcothar, or Oxide of Iron.

	Pounds.	Dollars.
1871	.....	40,663
1881	.....	30,195
1891	.....	25,790
1901	.....	66,251
1913	.....	106,604
1914	.....	186,476
1915	.....	183,033
1916	.....	221,209
1917	.....	292,122
1918	.....	233,516
1919	9,791,019	280,076
1920	11,277,278	362,288
1921	16,056,187	523,306

Quantity not stated prior to 1919.

Brown, Vandyke, Cassel Earth or Cassel Brown.

	Pounds.	Dollars.
1881	.....	6,451
1891	.....	106
1901	.....	.....
1913	.....	1,381
1914	.....	2,663
1915	.....	1,497
1916	.....	365
1917	.....	2,534
1918	.....	854
1919	33,600	2,573
1920	373,456	21,181
1921	417,875	13,314

Quantity not stated prior to 1919.

Brushes, Feather Dusters and Hair Pencils.

		Dollars.
1871	.....	222,188
1881	.....	439,856
1891	.....	858 821
1901	.....	1,134,396
1913	.....	2,074,141
*1914	.....	563,160

*Figures cover period from July 1 to October 3, 1913.

Stated separately after October 3, 1913.

Brushes.

		Dollars.
1914	.....	1,605,964
1915	.....	1,667,239
1916	.....	1,309,423
1917	.....	2,188,084
1918	.....	2,979,414

Stated separately after 1918.

Brushes, Toilet, Comprising Tooth, Hair, Nail or Hand

	Number.	Dollars
1919	43,835,308	2,208,099
1920	41,980,389	3,004,436
1921	34,442,124	3,102,492

Brushes, Hair Pencils.

	Number.	Dollars.
1919	401,262	5,849
1920	934,468	9,603
1921	2,072,143	33,349

Brushes, All Other.

	Number.	Dollars.
1919	7,899,454	205,327
1920	7,064,346	196,768
1921	12,747,257	586,508

Buchu Leaves.

	Pounds.	Dollars.
1871	71,524	7,530
1881	93,850	14,012
1891	.....	1,314
1901	.....	22,238
1913	105,310	114,632
1914	125,368	130,352
1915	120,704	115,689
1916	94,520	85,452
1917	100,809	85,807
1918	50,685	42,434
1919	85,303	89,578
1920	86,535	138,843
1921	93,757	182,722

Cadmium.

	Pounds.	Dollars.
1881	.....	1,131
1891	.....	678
1901	.....	5,715
1913	1,000	1,508
1914	1,543	1,239
1915	264	278
1916	5	6
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	101	216

Caffeine.

	Pounds.	Dollars.
.....	15,543	45,446
1913	59,773	211,361
1914	80,350	260,323
1915	54,323	186,557
1916	1,267	15,228
1917	1,601	17,219
1918	6,471	64,529
1919	2,662	26,383
1920	2,992	14,884
1921	2,574	12,769

Caffeine Compounds.

		Dollars.
1914	.....	9,712
1915	.....	4,071
1916	.....	605
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	44

Not stated prior to 1914.

Calcium, Acetate, Chloride, and Nitrate.

	Pounds.	Dollars.
1871	.....	89,660
1881	.....	.....
1891	.....	.....
1901	.....	.....
1914	.....	53,455
1915	.....	1,208,394
1916	.....	3,206,369
1917	.....	3,808,281
1918	.....	3,422,190
1919	74,915,529	2,920,293
1920	76,847,476	2,911,179
1921	111,261,888	4,466,039

Quantity not stated prior to 1919.

Calcium Cyanamid or Lime Nitrogen.

	Tons.	Dollars.
1913	14,656	777,774
1914	29,536	1,590,004
1915	20,564	919,574
1916	38,023	1,633,366
1917	44,146	1,951,104
1918	43,070	2,297,475
1919	46,149	2,705,475
1920	84,678	5,534,716
1921	34,702	2,443,450

Calcium, Metal

	Pounds.	Dollars.
1920	21,648	3,937
1921	2,269	2,692

Not stated prior to 1920.

Calcium, Tartrate, Crude.

	Pounds.	Dollars.
1914	118,256	8,849
1915	1,755,954	161,566
1916	1,101,255	135,638
1917	371,910	51,418
1918	118,355	19,715

Not stated prior to 1914.

1919	.....	.....
1920	212,519	27,239
1921	54,851	809

alomel, Corrosive Sublimate and Other Mercurial Medicinal Preparations.

		Dollars.
1871	.....	3,147
1881	.....	5,640
1891	.....	5,244
1901	.....	15,931
1913	.....	42,728
1914	.....	37,589
1915	.....	25,694
1916	.....	13,158
1917	.....	9,974
1918	.....	2,124
1919	.....	915

Stated separately after 1919.

Calomel

	Pounds.	Dollars.
1920	3,026	3,254
1921	720	1,029

Corrosive Sublimate

	Pounds.	Dollars.
1920	3,306	2,258
1921	665	683

Other Mercurial Medicinal Preparations

	Pounds.	Dollars.
1920	3,118	3,091
1921	6,989	8,326

Camomile Flowers.

	Pounds.	Dollars.
1881	.....	11,761
1891	.....	9,463
1901	.....	34,035
1913	.....	14,176
1914	.....	6,252
1915	.....	13,113
1916	.....	27,810
1917	.....	64,432
1918	.....	41,886
1919	72,404	14,394
1920	336,397	91,515
1921	167,700	36,893

Quantity not stated prior to 1919.

Camwood.

	Tons.	Dollars.
1881	308	27,513
1891	3	220
1901	.....	.....
1913	½	191
1914	.....	.....
1915	1	209
1916	80	5,991
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Candle Pitch or Tar, and Palm or Other Vegetable Stearin.

	Pounds.	Dollars
1891	.....	13,411
1901	.....	4,837
1913	3,047,020	56,970
1914	2,203,222	40,004
1915	1,262,725	23,400
1916	853,140	21,596
1917	467,958	14,446
1918	103,349	7,063
1919	.....	.....
1920	160,050	40,795
1921	5,000	767

Candles and Tapers, Wax and Other.

	Pounds.	Dollars.
1871	16,018	5,894
1881	10,999	3,237
1891	19,842	3,068
1901	26,272	5,651
1913	.....	22,990
1914	.....	14,348
1915	.....	8,638
1916	.....	9,118
1917	.....	4,515
1918	.....	3,916
1919	28,348	6,708
1920	28,459	8,365
1921	34,991	9,369

Cantharides.

	Pounds.	Dollars.
1871	20,803	20,539
1881	16,008	11,087
1891	5,787	4,256
1901	22,800	9,435
1914	5,648	4,435
1915	14,047	12,266
1916	32,603	26,923
1917	25,625	47,857
1918	5,949	6,677
1919	5,289	10,270
1920	10,159	12,269
1921	4,573	5,196

Carbazole

	Pounds.	Dollars.
1920	259	108
1921	.....	.....

Not stated prior to 1920.

Carbon Tetrachloride.

	Pounds.	Dollars.
1914	572,910	28,300
1915	342,854	18,139
1916	.....	.....
1917	2	2
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Not stated prior to 1914.

Cassia Buds, Unground.

	Pounds.	Dollars.
1871	22,003	6,554
1881	64,199	9,897
1891	129,317	13,914
1901	6,545	1,366
1914	173,449	10,101
1915	193,332	10,394
1916	197,056	16,585
1917	218,563	14,131
1918	173,202	16,271
1919	284,140	52,853
1920	211,688	23,399
1921	152,185	17,429

Cassia Buds, Ground.

	Pounds.	Dollars.
1871	2,460	387
1881	.....	.....
1891	.....	.....
1901	.....	.....
1917	139,224	21,672
1918	5,400	844
1919	200	20
1920	.....	.....
1921	24,800	7,753

Not stated where figures are not given.

Cassia, and Cassia Vera, Unground.

	Pounds.	Dollars.
1871	1,632,646	291,972
1881	1,987,052	207,106
1891	3,611,621	137,591
1901	3,364,336	297,478
1914	5,216,426	358,218
1915	5,658,154	348,598
1916	7,487,156	493,161
1917	9,019,350	803,079
1918	5,817,554	429,341
1919	6,581,061	546,194
1920	8,102,110	858,667
1921	5,850,438	622,260

Castor or Castoreum.

	Ounces.	Dollars.
1871	.....	5
1881	.....	62
1891	5,247	1,343
1901	527	232
1914	6,338	3,468
1915	13,035	5,344
1916	19,657	6,694
1917	24,427	8,250
1918	28,578	7,961
1919	21,067	6,941
1920	31,534	10,378
1921	8,288	2,385

Castor Beans or Seeds.

	Bushels.	Dollars.
1871	36,853	44,393
1881	36,540	34,770
1891	105,374	120,202
1901	191,288	255,594
1914	1,043,928	1,154,085
1915	924,605	993,580
1916	1,071,969	1,555,465
1917	767,075	1,185,775
1918	1,262,488	2,842,206
1919	627,835	2,188,256
1920	1,404,550	3,633,693
1921	663,031	1,343,521

Catgut, Whipgut or Wormgut, Unmanufactured.

	Pounds.	Dollars.
1891	.....	246,450
1901	.....	1,834
1914	.....	123,551
1915	.....	198,081
1916	.....	253,678
1917	.....	316,491
1918	.....	216,810
1919	24,813	328,796
1920	23,197	172,662
1921	47,440	324,058

Quantity not stated prior to 1919.

Catgut, Whipgut or Wormgut, Manufactures of.

		Dollars.
1881	.....	194,132
1891	.....	13,451
1901	.....	77,532
1914	.....	62,466
1915	.....	68,492
1916	.....	9,790
1917	.....	4,867
1918	.....	8,602
1919	.....	14,446
1920	.....	8,001
1921	.....	21,170

Cellophone (Manufacture of Cellulose).

		Dollars.
1918	.....	5,046
1919	.....	10,761
1920	.....	6,585
1921	.....	31,847

Not stated prior to 1918.

Celery Seed.

	Pounds.	Dollars.
1914	405,738	86,809
1915	639,673	117,475
1916	607,581	161,839
1917	755,532	142,164
1918	167,684	65,563
1919	318,544	182,810
1920	938,027	314,160
1921	386,786	50,377

Cement, Keene's, or Other, of Which Gypsum Is Component Material of Chief Value.

	Tons.	Dollars.
1914	1,225	19,290
1915	586	11,310
1916	520	8,766
1917	468	8,530
1918	305	6,362
1919	89	3,024
1920	197	5,976
1921	216	8,736

Cement, Portland, White, Non-staining

	Tons.	Dollars.
1920	639	24,652
1921	1	31

Not stated prior to 1920.

Cement, Roman, Portland and Other Hydraulic.

	100 pounds.	Dollars.
1871	.....	52,103
1881	.....	441,512
1891	10,905,989	3,970,565
1901	6,282,158	2,164,556
1913	313,092	124,393
1914	374,471	163,460
1915	342,292	132,864
1916	19,960	9,182
1917	4,196	2,929
1918	8,426	6,020
1919	32,135	51,063
1920	815,812	441,522
1921	1,317,177	965,591

Chalk, Unmanufactured.

	Tons.	Dollars.
1871	18,248	42,750
1881	51,546	52,784
1891	73,772	51,845
1901	.....	.....
1913	150,010	120,049
1914	128,947	102,907
1915	120,225	91,188
1916	131,368	95,861
1917	143,216	131,385
1918	107,391	120,792
1919	84,539	117,796
1920	112,292	179,543
1921	123,672	233,408

Chalk, When Ground, Precipitated, or Otherwise Prepared, Including Tailor's, Billiard, Red or French.

		Dollars.
1871	.....	4,663
1881	.....	3,851
1891	.....	18,643
1901	.....	.....
1913	.....	79,731
1914	.....	52,656
1915	.....	36,621
1916	.....	46,135
1917	.....	39,319
1918	.....	42,390
1919	.....	28,265

Stated as following classes after 1919:—

Chalk, Ground or Bolted

	Pounds.	Dollars.
1881	.....	.....
1891	.....	4,262
1901	.....	.....
1920	932,578	23,863
1921	2,390,250	58,184

Chalk, Precipitated, for Medicinal or Toilet Purposes

	Pounds.	Dollars.
1881	.....	.....
1891	433,736	18,643
1901	.....	.....
1920	1,021,885	27,899
1921	328,073	9,952

Chamois Skins.

		Dollars.
1913	.....	149,057
1914	.....	107,324
1915	.....	64,267
1916	.....	108,346
1917	.....	176,578
1918	.....	86,923
1919	.....	7,950
1920	.....	61,689
1921	.....	74,454

Charcoal.

	Pounds.	Dollars.
1913	.....	25,557
1914	.....	60,266
1915	.....	39,978
1916	.....	45,174
1917	.....	73,583
1918	.....	10,915
1919	1,355,812	42,548
1920	4,722,508	83,329
1921	6,107,968	90,411

Quantity not stated prior to 1919.

Chemicals, Drugs and Medicines in Capsules, Pills, Tablets or Similar Forms.

		Dollars.
1919	.....	395,505
1920	.....	449,497
1921	.....	652,998

Not stated prior to 1919.

Chicory Root, Raw but Unground.

	Pounds.	Dollars.
1913	2,203,057	32,939
1914	1,580,925	22,028
1915	471,966	6,717
1916	.....	.....
1917	241,299	29,131
1918	4,577	501
1919	.....	.....
1920	1,526,306	82,989
1921	6,052,078	391,923

Chicory Root, Burnt or Roasted, Ground or Granulated.

	Pounds.	Dollars.
1913	469,301	19,355
1914	765,056	31,988
1915	409,234	13,991
1916	5,657	260
1917	111,972	8,252
1918	824	97
1919	25	8
1920	816,287	54,244
1921	1,085,078	85,495

China Clay, or Kaolin.

	Tons.	Dollars.
1881	6,887	66,654
1891	33,706	232,699
1901	105,198	701,790
1913	263,838	1,753,322
1914	241,936	1,590,054
1915	230,484	1,506,555
1916	228,936	1,376,990
1917	206,729	1,212,099
1918	192,705	1,303,668
1919	146,260	1,436,786
1920	213,713	2,481,396
1921	247,267	2,805,865

Chloral Hydrate.

	Pounds.	Dollars.
1901	4,485	2,993
1913	.....	.....
1914	644	241
1915	112	25
1916	1	2
1917	.....	.....
1918	1,057	1,599
1919	.....	.....
1920	.....	.....
1921	1,850	1,711

Chloroform.

	Pounds.	Dollars.
1871	62	107
1881	50	33
1891	.....	.....
1901	259	79
1913	942	1,643
1914	2,444	990
1915	26	43
1916	.....	.....
1917	.....	.....
1918	1	1
1919	54	40
1920	2	4
1921	.....	.....

2,274 pounds of the 1914 figures were valued at only 25 cents a pound; 170 pounds at $2.48 per pound.

Chlorophyll, Extract of.

	Pounds.	Dollars.
1912	4,461	3,586
1913	7,508	8,544
1914	10,125	8,503
1915	3,490	3,671
1916	190	192
1917	.....	.....
1918	199	163
1919	363	511
1920	8	14
1921	1,248	2,242

Chrome or Chromium and Ferrochrome Metal

	Tons.	Dollars.
1913	322	89,291
1914	208	29,976
1915	81	6,943
1916	10	1,998
1917	10	1,851
1918	.....	.....
1919	.....	.....
1920	2,553,255	279,894
1921	2,945,624	315,504

Quantity stated in pounds after 1919.

Chrome, Yellow or Green, and All Other Chromium Colors.

	Pounds.	Dollars.
1891	76,601	11,194
1901	133,029	19,994
1913	148,299	23,405
1914	124,650	22,412
1915	124,638	21,171
1916	27,929	5,586
1917	28,078	4,202
1918	1,310	459
1919	5,127	2,074
1920	34,799	19,164
1921	322,050	23,894

Chromium, Hydroxide, Crude.

		Dollars.
1914	.....	5,859
1915	.....	12,444
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Not stated prior to 1914.

Cinchona Bark, Alkaloids or Salts of, Except Sulphate of Quinia.

	Ounces.	Dollars.
1891	112,013	29,977
1901	817,315	289,630
1913	648,865	131,692
1914	452,292	117,915
1915	203,330	66,004
1916	231,100	82,167
1917	623,947	324,438
1918	3,131,958	769,403
1919	1,147,102	272,631
1920	1,112,598	268,509
1921	1,666,688	504,489

Cinchonidia.

	Ounces.	Dollars.
1891	156,229	3,856
1901	28,000	9,465
1913	309,395	43,680
1914	205,606	19,502
1915	69,487	8,223
1916	131,481	15,814
1917	221,272	17,590
1918	80,482	20,708
1919	86,000	25,295
1920	40,188	11,065
1921	89,844	35,558

Cinnamon, and Chips of, Unground.

	Pounds.	Dollars.
1871	21,932	12,147
1881	10,397	3,853
1891	38,671	4,537
1901	483,992	77,685
1913	1,405,832	188,267
1914	303,967	44,304
1915	528,254	74,081
1916	410,594	50,026
1917	564,248	77,272
1918	686,466	111,004
1919	537,119	99,881
1920	607,183	143,254
1921	524,111	138,060

Civet.

	Ounces.	Dollars.
1891	3,952	6,294
1901	4,397	9,473
1913	11,269	15,557
1914	2,761	3,978
1915	1,820	2,086
1916	9,600	12,069
1917	9,230	13,148
1918	9,766	11,877
1919	15,315	17,253
1920	10,554	12,048
1921	8,662	16,877

Clay, Common Blue, for Manufacturing Crucibles and Glass Melting Pots.

	Tons.	Dollars.
1891	2,965	38,621
1901	5,423	67,763
1913	23,213	211,005
1914	20,587	180,524
1915	12,274	107,146
1916	3,488	16,088
1917	412	2,353
1918	64	869
1919	80	493
1920	2,456	62,507
1921	4,564	98,029

Clay, Gross Almerode Glass Pot Clay

	Tons.	Dollars.
1920	755	24,207
1921	1,203	29,514

Not stated prior to 1920.

Clay, Plasticene and Other Modeling.

	Pounds.	Dollars.
1913	.....	8,519
1914	.....	9,424
1915	.....	6,541
1916	.....	7,978
1917	.....	12,468
1918	.....	7,083
1919	37,875	6,025
1920	84,092	12,162
1921	139,475	22,150

Quantity not stated prior to 1919.

Clays or Earths, Not Specially Provided For.

	Tons.	Dollars.
1871	12,160	103,144
1881	12,444	123,545
1891	19,582	154,518
1901	25,146	144,050
1913	37,370	167,614
1914	37,572	210,574
1915	36,072	153,041
1916	34,677	148,916
1917	30,942	138,171
1918	24,474	144,666
1919	23,199	199,332
1920	23,324	200,868
1921	41,259	396,303

Cloves, Unground.

	Pounds.	Dollars.
1871	1,137,896	64,547
1881	1,046,911	310,543
1891	2,510,066	284,181
1901	2,120,386	170,068
1913	2,734,992	481,751
1914	5,054,621	597,310
1915	5,346,665	595,546
1916	7,066,237	791,708
1917	3,867,851	532,345
1918	5,521,919	1,166,879
1920	6,730,252	2,101,971
1919	3,841,197	1,072,137
1921	4,124,625	1,146,930

Clove Stems, Unground.

	Pounds.	Dollars.
1871	52,446	1,452
1881	118,968	8,435
1891	425,137	8,660
1901	295,696	8,271
1913	32,830	1,333
1914	268	20
1915	4,391	760
1916	57,160	4,009
1917	1,120	174
1918	46,432	6,990
1919	.....	.....
1920	2,905,811	356,363
1921	914,115	61,796

Coal-Tar Colors or Dyes Not Specially Provided For.

	Pounds.	Dollars.
1871	.....	276,889
1881	.....	1,208,553
1891	.....	1,632,642
1901	.....	342,116
1913	.....	6,902,065
1914	.....	7,537,924
1915	.....	5,858,509
1916	.....	2,997,924
1917	.....	2,919,554
1918	.....	2,240,558
1919	1,806,753	2,525,024
1920	2,522,029	3,375,093
1921	2,786,139	4,023,113

Quantity not stated prior to 1919.

Coal-Tar Distillates, Not Elsewhere Specified, and Not Colors or Dyes.

	Pounds.	Dollars.
1914	.....	138,636
1915	.....	31,979
1916	.....	358,836
1917	.....	78,665
1918	.....	7,571
1919	168,235	18,709
1920	3,100	4,436
1921	.....	.....

Quantity not stated prior to 1919.

Coal-Tar Preparations, Medicinal.

		Dollars.
1891	.....	137,925
1901	.....	383,559
1917	.....	381,256
1918	.....	314,188
1919	.....	222,322
1920	.....	111,921
1921	.....	235,240

Cobalt and Cobalt Ore, and Zaffer

	Pounds.	Dollars.
1881	.....	.....
1891	2,024	54
1901	.....	.....
1913	310,951	30,713
1914	197,009	115,038
1915	24,095	8,225
1916	144,170	136,124
1917	136,883	191,966
1918	161,695	306,310

Stated separately after 1918.

Cobalt, Ore.

	Pounds.	Dollars.
1919	220,125	55,197
1920	17,035	2,823
1921	13,039	4,794

Cobalt, Metal.

	Pounds.	Dollars.
1919	156,372	511,683
1920	99,595	228,891
1921	133,857	322,293

Cobalt, Oxide of.

	Pounds.	Dollars.
1871	.....	2,766
1881	21,844	15,837
1891	34,700	63,433
1901	61,962	111,740
1913	28,729	14,405
1914	109,584	95,026
1915	109,155	180,087
1916	238,934	228,745
1917	236,822	220,263
1918	220,793	248,172
1919	143,003	215,441
1920	199,097	282,457
1921	187,177	442,501

Coca Leaves

	Pounds.	Dollars.
1901	.....	483
1913	1,175,780	139,035
1914	711,564	91,384
1915	1,048,312	98,870
1916	947,537	100,627
1917	634,932	90,131
1918	1,059,484	179,312
1919	1,023,322	186,477
1920	903,552	211,514
1921	306,308	63,767

Cocoa Butter, or Butterine, Refined, Deodorized Cocoanut Oil, and All Substitutes for Cocoa Butter.

	Pounds.	Dollars.
1913	3,634,986	990,568
1914	2,876,967	801,259
1915	126,028	35,863
1916	69,888	15,824
1917	24,289	7,581
1918	14,512	4,569
1919	10,716	3,310
1920	9,439	4,486
1921	441,633	96,172

Cocaine, Ecgonine, and Salts Of

	Ounces.	Dollars.
1901	.....	176,948
1913	3,715	4,835
1914	3,291	4,101
1915	179	422
1916	4,275	5,887
1917	19,388	38,627
1918	8,597	35,358
1919	19,382	68,584
1920	11,614	29,217
1921	6,172	22,521

Cocculus Indicus

	Pounds.	Dollars.
1881	1,081	22
1891	1,741	42
1901	9,192	166
1913	.....	.....
1914	4,446	121
1915	9,550	388
1916	.....	.....
1917	7,410	2,818
1918	.....	.....
1919	26,116	10,122
1920	4,325	612
1921	23,032	1,560

Cochineal

	Pounds.	Dollars.
1871	1,869,084	1,184,245
1881	1,072,144	527,836
1891	86,797	19,935
1901	114,414	20,414
1913	109,089	44,249
1914	138,139	52,260
1915	155,430	38,454
1916	772,416	358,914
1917	124,745	46,802
1918	160,547	75,924
1919	177,585	70,229
1920	166,014	72,718
1921	100,844	39,657

Cocoanut Meat, or Copra, Not Shredded, Desiccated or Prepared

	Pounds.	Dollars.
1913	34,283,592	1,531,864
1914	44,459,158	2,395,105
1915	88,690,392	3,390,157
1916	108,507,765	4,551,422
1917	247,043,127	12,530,112
1918	486,833,808	26,937,621
1919	300,965,246	19,847,782
1920	218,521,946	15,171,465
1921	102,245,515	9,923,789

Collodion and Celluloid and All Compounds of Pyroxylin

		Dollars.
1881	.....	2
1891	.....	11,785
1901	.....	725
1913	.....	288,636
1914	.....	583,391
1915	.....	371,714
1916	.....	127,627
1917	.....	53,533
1918	.....	58,054
1919	.....	43,172
1920	.....	77,673
1921	.....	155,536

Colombo Root

	Pounds.	Dollars.
1881	8,336	814
1891	.....	.....
1901	43,040	1,466
1913	27,565	794
1914	4,537	134
1915	8,751	458
1916	48,867	3,442
1917	92,349	4,999
1918	20,759	3,061
1919	2,195	548
1920	130,862	16,185
1921	425,190	62,646

Coloring for Brandy, Wine, Beer or Other Liquors

		Dollars.
1901	.....	1,389
1913	.....	1,925
1914	.....	1,628
1915	.....	842
1916	.....	192
1917	.....	225
1918	.....	.....
1919	.....	.....
1920	.....	13
1921	.....	2,040

Color Foils

		Dollars.
1913	.....	10,925
1914	.....	7,347
1915	.....	2,516
1916	.....	.....
1917	.....	1,747
1918	.....	5,743
1919	.....	.....
1920	.....	3,355
1921	.....	6,969

Copperas, or Sulphate of Iron

	Pounds.	Dollars.
1871	1,842,308	9,083
1881	151,496	956
1891	896,937	4,104
1901	24,786	243
1913	6,196	174
1914	1,120	18
1915	4,750	95
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	377,613	4,869
1921	119,947	1,733

Copper, Sulphate of, or Blue Vitriol

	Pounds.	Dollars.
1871	45,809	2,339
1881	20	3
1891	8,432	310
1901	1,788	95
1913	11,051	728
1914	114,730	5,486
1915	45,239	2,156
1916	184,182	17,651
1917	15,952	2,233
1918	98,143	9,035
1919	120	36
1920	72,605	7,248
1921	676,628	38,370

Cork, Artificial, or Substitutes, Manufactured from Cork Waste or Granulated Cork

	Pounds.	Dollars.
1919	175,331	116,505
1920	.....	.....
1921	6	1

Not stated prior to 1919.

Cork Bark, Cut Into Squares, Cubes or Quarters

	Pounds.	Dollars.
1919	5,653	2,927
1920	1,353	462
1921	524	145

Not stated prior to 1919.

Cork Stoppers

	Pounds.	Dollars.
1891	.....	428,635
1901	1,286,593	534,064
1914	888,500	728,317
1915	326,887	250,342
1916	269,806	170,746
1917	437,550	275,161
1918	365,877	198,378
1919	119,000	69,657
1920	139,829	120,389
1921	218,932	156,512

Cork Disks, Wafers or Washers

	Pounds.	Dollars.
1914	2,065,567	1,675,683
1915	1,926,864	1,165,540
1916	695,776	487,588
1917	2,815,515	1,973,342
1918	2,316,018	1,445,851
1919	706,252	552,857
1920	1,377,958	857,525
1921	995,208	688,193

Cork Insulation

	Pounds.	Dollars.
1917	4,038,372	181,698
1918	3,771,294	181,402
1919	2,834,807	177,389
1920	6,710,418	543,494
1921	9,112,352	779,673

Not stated prior to 1917.

Cork Paper

		Dollars.
1917	.....	138,214
1918	.....	107,462
1919	.....	105,751
1920	.....	85,349
1921	.....	40,243

Not stated prior to 1917.

Cork Waste, Shavings and Cork Refuse of All Kinds

	Pounds.	Dollars.
1917	120,677,624	1,743,184
1918	95,051,164	1,582,755
1919	101,762,928	1,827,541
1920	146,649,475	2,813,247
1921	130,669,984	3,161,790

Not stated prior to 1917.

Corkwood, or Cork Bark, Unmanufactured

	Pounds.	Dollars.
1871	.....	359,626
1881	.....	787,933
1891	.....	1,249,008
1901	.....	1,727,921
1913	133,227,878	3,152,070
1914	88,282,529	2,646,018
1915	24,897,803	1,420,581
1916	32,866,700	1,517,366
1917	40,273,005	2,125,633
1918	30,750,497	1,479,072
1919	26,505,971	1,736,100
1920	27,376,326	1,456,276
1921	47,804,241	2,373,006

Cosmetics and Toilet Preparations, Including Tooth Pastes, Powders, Etc.

	Pounds.	Dollars.
1913	.....	1,026,369
1914	.....	1,086,211
1915	.....	1,542,131
1916	.....	1,271,614
1917	.....	1,702,939
1918	.....	1,502,713
1919	817,171	1,549,184
1920	903,275	455,891
1921	399,657	410,854

Quantity not stated prior to 1919.

Crayons, Including Charcoal Crayons or Fusains

	Pounds.	Dollars.
1871	.....	2,582
1881	.....	10,047
1891	.....	18,028
1901	.....	9,030
1913	.....	12,925
1914	.....	13,359
1915	.....	15,090
1916	.....	11,535
1917	.....	12,945
1918	.....	10,282
1919	14,330	11,376
1920	16,777	11,284
1921	40,673	16,363

Quantity not stated prior to 1919.

Cream of Tartar

	Pounds.	Dollars.
1871	3,605,401	639,467
1881	23	7
1891	778	158
1901	145	59
1913	66,718	11,797
1914	812,857	156,987
1915	764,868	166,922
1916	38,588	13,479
1917	98,609	28,488
1918	68,586	16,068
1919	.....	.....
1920	123,017	52,300
1921	578,641	166,048

Cresol

	Pounds.	Dollars.
1917	4,790,699	329,738
1918	7,531,607	546,300
1919	8,687,183	820,367
1920	8,188,303	635,353
1921	6,476,140	643,754

Not stated prior to 1917.

Crucibles of Stone, and Earthenware

		Dollars.
1914	.....	10,974
1915	.....	6,764
1916	.....	7,641
1917	.....	58,161
1918	.....	7,860
1919	.....	1,432
1920	.....	9,880
1921	.....	8,634

Not stated prior to 1914.

Cryolite, or Kryolith

	Tons.	Dollars.
1871	.....	71,058
1881	.....	103,529
1891	7,129	95,405
1901	6,167	82,533
1913	2,519	52,440
1914	2,157	47,435
1915	4,569	91,417
1916	3,962	84,497
1917	3,835	163,475
1918	4,383	218,600
1919	19,951	97,500
1920	2,130	106,500
1921	3,866	194,158

Cubebs

	Pounds.	Dollars.
1871	64,431	3,886
1881	131,850	21,505
1891	65,404	46,530
1901	310,172	22,248
1913	166,307	53,663
1914	105,665	32,456
1915	87,538	23,451
1916	89,300	28,566
1917	123,558	43,442
1918	76,895	45,034
1919	147,604	57,564
1920	139,158	103,026
1921	127,667	121,595

Cudbear

	Pounds.	Dollars.
1871	.....	40,253
1881	1,931,357	232,360
1891	402,241	37,889
1901	44,332	2,964
1913	27,971	1,775
1914	15,653	1,061
1915	24,827	1,680
1916	55,948	6,512
1917	49,163	6,105
1918	62,504	10,166
1919	44,432	6,012
1920	34,004	4,857
1921	46,647	7,874

Curry and Curry Powder

	Pounds.	Dollars.
1871	.....	569
1881	.....	3,893
1891	.....	5,103
1901	.....	7,852
1913	.....	12,087
1914	.....	11,307
1915	.....	9,872
1916	.....	8,669
1917	.....	10,624
1918	.....	9,248
1919	11,800	4,606
1920	35,975	13,651
1921	32,403	10,206

Quantity not stated prior to 1919.

Cuttlefish Bone

	Pounds.	Dollars.
1901	193,494	23,590
1913	218,317	30,355
1914	309,540	56,051
1915	282,239	52,041
1916	214,659	36,576
1917	230,271	52,838
1918	247,250	57,536
1919	186,633	73,380
1920	360,538	122,047
1921	375,251	86,812

Dandelion Root

	Pounds.	Dollars.
1881	33,119	2,966
1891	59,929	3,593
1901	73,573	4,078
1913	108,434	8,269
1914	109,658	9,389
1915	112,814	12,137
1916	29,378	6,487
1917	108,713	22,912
1918	149,088	37,773
1919	77,165	16,600
1920	201,708	28,139
1921	182,907	29,021

Decalcomanias, in Ceramic Colors

	Pounds.	Dollars.
1913	80,094	144,890
1914	45,999	92,528
1915	22,411	62,462
1916	11,176	32,882
1917	8,471	27,398
1918	5,195	22,206
1919	2,984	14,304
1920	4,905	19,616
1921	6,301	30,741

Decalcomanias, All Other, Except Toys

	Pounds.	Dollars.
1913	41,370	42,091
1914	133,805	131,494
1915	90,040	87,641
1916	51,840	55,634
1917	66,513	60,844
1918	34,858	41,300
1919	55,236	85,068
1920	71,740	78,516
1921	137,825	181,330

Diamonds, Glaziers, Engravers and Miners', Unset

	Carats.	Dollars.
1871	.....	976
1881	.....	233,596
1891	.....	407,188
1901	.....	4,071
1913	.....	368,241
1914	.....	101,839
1915	.....	258,272
1916	.....	738,085
1917	.....	948,592
1918	.....	1,049,975
1919	18.793	632,129
1920	42,161	1,270,040
1921	41,058	1,088,441

Quantity not stated prior to 1919.

Divi Divi

	Pounds.	Dollars.
1901	853,573	12,505
1913	314,491	4,143
1914	29,032	461
1915	4,513,219	71,367
1916	16,467,455	310,572
1917	15,969,144	293,191
1918	15,739,331	274,801
1919	26,556,867	522,913
1920	26,632,840	580,972
1921	8,188,532	165,633

Dyewoods, Not Elsewhere Specified

	Tons.	Dollars.
1871	16,598	647,224
1881	4,947	150,900
1891	1,002	28,960
1901	14,985	151,849
1913	155	1,784
1914	371	6,697
1915	1,539	20,674
1916	7,043	172,765
1917	6,745	48,211
1918	16,489	425,942
1919	2,153	52,186
1920	2,339	49,913
1921	2,342	51,082

Eggs, Poultry

	Dozens.	Dollars.
1871	.....	563,403
1881	8,563,568	1,097,230
1891	8,219,339	1,186,074
1901	127,083	10,572
1913	1,271,765	194,414
1914	5,823,749	1,059,595
1915	3,058,863	440,067
1916	732,313	110,638
1917	1,103,187	207,822
1918	1,619,259	482,636
1919	846,573	232,401
1920	1,348,383	466,753
1921	3,315,805	1,056,359

Eggs, Dried

	Pounds.	Dollars.
1913	20,284	7,537
1914	38,061	12,940
1915	30,575	10,385
1916	38,993	9,875
1917	1,590,563	417,417
1918	1,598,630	429,167
1919	741,972	419,799
1920	3,311,350	1,812,648
1921	2,419,997	1,086,318

Eggs, Frozen or Otherwise, Prepared or Preserved, in Packages

	Pounds.	Dollars.
1914	2,647,974	305,232
1915	2,815,511	198,654
1916	3,756,188	248,997
1917	2,171,338	178,627
1918	1,250,574	153,870
1919	1,210,321	245,494
1920	6,579,489	1,030,364
1921	10,133,235	1,593,782

Not stated prior to 1914.

Eggs, Yolks of

	Pounds.	Dollars.
1881	.....	2,454
1891	.....	18
1901	.....	195
1913	227,457	37,077
1914	675,058	168,972
1915	1,382,408	257,607
1916	2,919,619	373,152
1917	6,924,071	1,332,095
1918	8,077,730	2,029,420
1919	4,746,015	1,648,564
1920	9,044,186	3,909,927
1921	10,312,080	3,206,752

Enamel, Fusible and Glass

		Dollars.
1913	.....	11,957
1914	.....	18,028
1915	.....	10,975
1916	.....	3,731
1917	.....	12,078
1918	.....	8,052
1919	.....	5,671
1920	.....	27,011
1921	.....	24,995

Enamel, Glass, White, for Watch and Clock Dials

		Dollars.
1901	.....	5,082
1913	.....	15,855
1914	.....	13,284
1915	.....	7,331
1916	.....	4,930
1917	.....	13,904
1918	.....	10,465
1919	.....	6,585
1920	.....	12,267
1921	.....	5,271

Enamel Paints

	Pounds.	Dollars.
1913	59,457	11,877
1914	96,174	17,816
1915	86,078	6,504
1916	54,546	8,987
1917	118,571	13,902
1918	2,470	336
1919	1,908	2,641
1920	22,848	11,540
1921	52,000	20,244

Ergot

	Pounds.	Dollars.
1871	17,805	6,898
1881	137,618	45,156
1891	88,620	26,932
1901	164,446	80,952
1913	223,793	208,364
1914	185,704	102,640
1915	141,915	92,459
1916	12,015	73,896
1917	165,701	80,647
1918	140,474	81,267
1919	116,813	149,890
1920	125,021	361,558
1921	213,491	690,224

Ether, Ethyl Chloride

	Pounds.	Dollars.
1913	11,241	7,903
1914	9,014	10,046
1915	.....	.....
1916	2,780	5,193
1917	8,917	5,207
1918	1,274	2,411
1919	22,495	2,250
1920	877	685
1921	7,009	6,482

Ether, Fruit, Containing No Alcohol

	Pounds.	Dollars.
1871	127	213
1881	97	180
1891	981	1,702
1901	2,464	4,709
1914	1,331	1,737
1915	117	1,070
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	22,806	2,574
1920	.....	.....
1921	.....	.....

Ether, Ethyl Acetate, or Acetic Ether

	Pounds.	Dollars.
1920	400	493
1921	.....	.....

Not stated prior to 1920.

Ethers, Containing Not More Than 10 Per Cent. Alcohol

	Pounds.	Dollars.
1921	260	796

Not stated prior to 1921.

Ethers, Containing More Than 10 Per Cent. Alcohol

	Pounds.	Dollars.
1901	608	1,119
1914	.....	1,818
1915	66	64
1916	140	169
1917	.....	.....
1918	880	182
1919	.....	.....
1920	.....	.....
1921	240	274

Quantity not stated prior to 1915.

Ethers, Sulphuric

	Pounds.	Dollars.
1891	8	1
1901	169	30
1913	755	120
1914	915	131
1915	849	189
1916	62	23
1917	.....	.....
1918	8	7
1919	282,576	28,258
1920	100	34
1921	.....	.....

Extracts, Wood, for Tanning, Not Elsewhere Specified

	Pounds.	Dollars.
1920	2,145,210	122,254
1921	916,197	50,569

Not stated prior to 1920.

Extracts for Tanning, Not Elsewhere Specified

	Pounds.	Dollars.
1920	160,754	14,947
1921	485	284

Not stated prior to 1920.

Extracts of Vegetable Origin for Dyeing, Not Elsewhere Specified, Not Containing Alcohol

	Pounds.	Dollars.
1918	1,711,396	101,338
1919	1,284,550	162,146
1920	618,334	103,469
1921	355,463	50,405

Not stated prior to 1918.

Ferrophosphorus Metal

	Tons.	Dollars.
1913	81	3,689
1914	26	1,136
1915	27	1,213
1916	12	617
1917	85	5,458
1918	10	1,055
1919	*100,141	3,639
1920	61,665	2,207
1921	14,000	780

* Pounds after 1918.

Ferrovanadium Metal

	Pounds.	Dollars.
1920	19,189	39,254
1921	.....	.....

Not stated prior to 1920.

Fertilizers, Not Specially Provided For

	Tons.	Dollars.
1891	14,792	221,467
1901	72,239	640,428
1913	115,257	2,190,816
1914	197,165	4,241,285
1915	100,155	2,208,193
1916	73,252	1,591,517
1917	71,374	1,521,307
1918	63,815	1,772,684
1919	55,775	2,260,253
1920	123,287	4,752,048
1921	113,353	5,434,425

Fish Sounds

	Pounds.	Dollars.
1916	396,031	96,201
1917	456,738	104,654
1918	331,248	78,490
1919	150,411	38,876
1920	80,781	9,210
1921	131,136	31,051

Not stated prior to 1916.

Filter Tubes

		Dollars.
1901	.....	6,053
1913	.....	6,038
1914	.....	7,437
1915	.....	6,639
1916	.....	2,769
1917	.....	7,359
1918	.....	3,135
1919	.....	2,481
1920	.....	3,105
1921	.....	2,832

Filter Masse or Filter Stock

	Pounds.	Dollars.
1914	486,476	53,974
1915	349,498	41,880
1916	54,349	8,356
1917	65,052	10,304
1918	48,210	13,917
1919	6,605	1,097
1920	65,750	9,048
1921	146,282	26,455

Flavoring Extracts

	Pounds.	Dollars.
1918	4,938	6,383
1919	3,431	11,282
1920	5,057	9,173
1921	43,625	30,693

Not stated prior to 1918.

Flaxseed Screenings

	Pounds.	Dollars.
1914	.....	4,748
1915	.....	673
1916	.....	4,506
1917	.....	2,052
1918	.....	37,818
1919	13,970,091	84,207
1920	31,055,762	183,716
1921	25,993,195	105,630

Not separately stated prior to 1914, quantity not stated prior to 1919.

Floral Essences Containing No Alcohol

		Dollars.
1914	.....	87,086
1915	.....	145,973
1916	.....	265,956
1917	.....	408,936
1918	.....	250,531
1919	.....	34,610
1920	.....	174,097
1921	.....	176,198

Not stated prior to 1914.

Flowers and Leaves in a Crude State, Not Elsewhere Specified

	Pounds.	Dollars.
1920	3,880,591	684,337
1921	2,658,910	401,233

Not stated prior to 1920.

Floral or Flower Waters Containing No Alcohol

		Dollars.
1913	.....	31,710
1914	.....	50,207
1915	.....	22,216
1916	.....	34,461
1917	.....	29,279
1918	.....	52,253
1919	.....	274,648
1920	.....	23,902
1921	.....	61,497

Fluorspar

	Tons.	Dollars.
1913	23,786	17,535
1914	13,663	56,943
1915	6,925	27,351
1916	8,808	32,482
1917	12,008	87,380
1918	10,936	117,279
1919	10,367	169,605
1920	11,312	146,151
1921	18,068	219,357

Formaldehyde Solution Containing Not More Than 40 Per Cent. Formaldehyde or Formaline

	Pounds.	Dollars.
1913	.....	.....
1914	14,228	1,443
1915	7,700	814
1916	79,857	8,054
1917	23,935	2,349
1918	223,402	40,691
1919	162	71
1920	195,878	92,944
1921	274,000	125,819

Fruit Oils and Essences Not Elsewhere Specified

	Pounds.	Dollars.
1920	3,922	12,908
1921	3,080	7,554

Not stated prior to 1920.

Fuller's Earth

	Tons.	Dollars.
1911	15,813	125,809
1912	16,175	138,111
1913	16,866	145,588
1914	19,367	174,276

Subdivided after 1914; see below.

Fuller's Earth, Unwrought and Unmanufactured

	Tons.	Dollars.
1871	326	3,383
1881	268	3,207
1891	.....	.....
1901	2,653	16,006
1915	745	5,268
1916	1,067	7,825
1917	975	7,846
1918	1,348	14,552
1919	657	7,800
1920	334	6,413
1921	1,222	16,561

Fuller's Earth, Wrought or Manufactured

	Tons.	Dollars.
1901	7,352	55,450
1915	18,754	103,540
1916	14,973	135,845
1917	15,077	159,071
1918	13,435	177,102
1919	13,036	205,219
1920	14,461	199,284
1921	11,015	145,377

Fustic

	Tons.	Dollars.
1881	8,677	130,490
1891	9,100	132,842
1901	7,140	83,695
1913	3,785	53,303
1914	7,121	100,501
1915	12,354	179,959
1916	17,469	289,913
1917	5,195	142,431
1918	16,259	435,428
1919	4,486	83,096
1920	929	16,567
1921	2,504	36,683

Galalith (Artificial Ivory) and Manufactures of

		Dollars.
1913	.....	12,736
1914	.....	15,060
1915	.....	10,048
1916	.....	10,028
1917	.....	30,762
1918	.....	45,368
1919	.....	75,883
1920	.....	138,515
1921	.....	58,016

Gas Liquor, Ammoniacal

		Dollars.
1913	.....	35,245
1914	.....	29,336
1915	.....	31,466
1916	.....	26,733
1917	.....	23,335
1918	.....	5,059
1919	.....	.....
1920	.....	18,672
1921	.....	7,571

Gelatin, Unmanufactured

	Pounds.	Dollars.
1871	.....	55,095
1881	.....	.....
1891	533,812	251,833
1901	700,770	303,054
1913	1,085,940	279,822
1914	2,439,440	768,215
1915	2,708,362	916,368
1916	1,657,065	319,173
1917	967,920	309,524
1918	369,115	133,873
1919	183,716	99,068
1920	1,112,569	573,889
1921	2,262,392	1,171,256

Gentian Root

	Pounds.	Dollars.
1881	102,297	3,393
1891	214,645	5,943
1901	574,212	16,758
1913	1,796,928	88,281
1914	2,181,935	109,119
1915	1,022,252	55,553
1916	788,307	63,240
1917	1,780,044	218,377
1918	382,590	46,616
1919	188,402	26,663
1920	913,343	92,524
1921	1,051,380	78,862

Ginger Root, Unground, Not Preserved or Candied.

	Pounds.	Dollars.
1901	3,507,680	194,605
1913	7,856,401	406,197
1914	3,006,132	145,792
1915	3,310,391	156,973
1916	5,593,845	391,965
1917	4,307,279	411,965
1918	5,157,531	431,245
1919	2,386,644	212,975
1920	9,068,228	1,267,962
1921	4,049,429	583,362

Glass Bottles and Bottle Glasswa. Blown in a Mold, or Otherwise.

	Pounds.	Dollars.
1919	126,935	32,875
1920	81,695	32,807
1921	185,920	19,065

Not stated prior to 1919.

Glass Bottles, Vials and Jars, Plain Green or Colored, Molded or Pressed, and Flint, Lime, or Lead, Empty.

	Pounds.	Dollars.
1913	.....	205,267
1914	.....	214,130
1915	3,561,200	83,688
1916	1,351,813	24,049
1917	850,946	19,231
1918	114,725	5,635
1919	199,869	7,531
1920	485,891	25,503
1921	1,481,864	91,008

Quantity not stated prior to 1915.

Glass, Cylinder and Crown, Unpolished, Silvered.

	Sq. feet.	Dollars.
1914	56,494	3,993
1915	54,393	2,021
1916	12	1
1917	429	45
1918	8,846	1,159
1919	150	15
1920	5,150	911
1921	7,711	1,843

Glass, Cylinder and Crown, Polished, Not Bent or Decorated.

	Sq. feet.	Dollars.
1913	579,129	119,395
1914	615,337	121,814
1915	196,274	36,783
1916	108,578	19,893
1917	.....	.....
1918	255	307
1919	.....	.....
1920	15,176	7,697
1921	131,171	108,770

Glass, Cylinder and Crown, Polished When Bent or Decorated.

	Sq. feet.	Dollars.
1913	247,428	60,269
1914	147,482	36,116
1915	43,385	10,076
1916	5,321	1,353
1917	39	67
1918	.....	.....
1919	.....	.....
1920	668	232
1921	2,961	3,426

Glass, Cylinder and Crown, Polished, Silvered, Not Bent or Decorated

	Sq. feet.	Dollars.
1914	90,657	20,405
1915	89,346	19,597
1916	8,798	1,905
1917	.....	.....
1918	15	15
1919	.....	.....
1920	22,091	8,302
1921	111,357	156,064

Not stated prior to 1914.

Glass, Cylinder and Crown, Polished, Silvered, Bent or Decorated.

	Sq. feet.	Dollars.
1920	11,506	6,058
1921	28	35

Not stated prior to 1920.

Glass Demijohns and Carboys, Covered or Uncovered, Empty.

	Pounds.	Dollars.
1914	.....	3,899
1915	27,990	890
1916	4,731	298
1917	.....	.....
1918	2,528	200
1919	4,905	3,043
1920	250	16
1921	10,858	3,206

Quantity not stated prior to 1915.

Glass, Plate, Fluted, Rolled, Ribbed or Rough, or the Same Containing a Wire Netting Within Itself.

	Sq. feet.	Dollars.
1913	379,219	14,812
1914	436,587	15,207
1915	307,516	12,742
1916	69,272	4,526
1917	18,240	2,002
1918	17,656	2,239
1919	6,978	2,453
1920	19,053	3,940
1921	220,674	19,100

Glass, Plate, Fluted, Rolled, Ribbed or Rough, Ground, Smoothed or Otherwise Obscured.

	Sq. feet.	Dollars.
1913	9,617	2,247
1914	614,012	126,917
1915	4,872	1,074
1916	459	124
1917	5,952	402
1918	3,996	391
1919	.....	.....
1920	46,087	34,754
1921	439,004	317,730

Glass, Plate—Cast, Polished, Finished or Unfinished, Unsilvered, or the Same Containing a Wire Netting Within Itself.

	Sq. feet.	Dollars.
1913	1,068,427	247,015
1914	2,819,386	631,596
1915	440,718	100,400
1916	12,782	3,778
1917	13,484	13,787
1918	.....	.....
1919	.....	.....
1920	430,253	309,932
1921	3,484,398	3,008,343

Glass Plate—Cast, Polished, Unsilvered When Bent or Decorated, Etc.

	Sq. feet.	Dollars.
1913	88,189	47,449
1914	140,806	62,228
1915	27,121	14,531
1916	7,147	2,726
1917	3,334	1,542
1918	.....	.....
1919	273	210
1920	4,226	2,766
1921	28,396	26,663

Glass, Plate—Cast, Polished, Silvered and L. G. Plates, Exceeding in Size 144 Square Inches.

	Sq. feet.	Dollars.
1913	832	527
1914	18,229	4,883
1915	2,592	904
1916	2,557	515
1917	35	116
1918	181	82
1919	26	122
1920	6,939	5,459
1921	49,369	38,767

Glass, Plate—Cast, Polished, Silvered When Bent or Otherwise Decorated.

	Sq. feet.	Dollars.
1913	1,510	1,004
1914	19,659	5,854
1915	6,822	2,152
1916	2,570	2,135
1917	14	35
1918	104	94
1919	.....	.....
1920	66	115
1921	45	85

Glassware, Chemical, Including Flasks, Beakers, Graduated Ware and All Ware Known as Chemical Ware.

		Dollars.
1919	.....	56,999
1920	.....	160,597
1921	.....	156,426

Not stated prior to 1919.

Window Glass

(Stated in detail for later years.)

	Pounds.	Dollars.
1871	37,922,875	1,495,170
1881	45,612,593	1,471,914
1891	61,577,799	1,512,703
1901	29,967,415	970,073

Glass, Window—Cylinder, Crown, Unpolished.

	Pounds.	Dollars.
1913	20,458,971	804,732
1914	31,197,531	1,212,536
1915	16,532,210	679,228
1916	1,401,572	140,202
1917	2,594,979	277,222
1918	572,614	84,018
1919	360,953	25,616
1920	2,448,115	250,649
1921	29,173,325	1,639,579

Glass, Window—Cylinder, Crown and Common, Unpolished When Bent or Decorated.

	Pounds.	Dollars.
1913	1,773,023	153,723
1914	1,703,186	149,203
1915	460,017	56,223
1916	339,009	52,051
1917	370,522	47,069
1918	131,139	19,010
1919	159,103	29,829
1920	735,168	97,321
1921	1,060,676	121,594

Glauber Salts.

	Tons.	Dollars.
1871	118	2,879
1881	.....	15
1891	108	2,167
1901	305	6,826
1913	240	5,085
1914	228	5,557
1915	53	1,113
1916	1	33
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	1	36
1921	44	710

Glazes, Fluxes, Enamels and Colors, Ceramic and Glass.

	Pounds.	Dollars.
1914	.....	38,527
1915	.....	70,782
1916	.....	64,138
1917	.....	43,421
1918	.....	26,583
1919	19,046	22,839
1920	45,661	48,090
1921	53,907	60,753

Not stated prior to 1914; quantity not stated prior to 1919.

Glucose.

	Pounds.	Dollars.
1871	.....	412
1881	.....	107,370
1891	815,491	22,038
1901	94,767	2,317
1913	212,685	7,196
1914	262,223	9,025
1915	52,799	1,889
1916	1,233	313
1917	7,696	331
1918	105,551	6,482
1919	400	40
1920	40,267	3,040
1921	50	5

Glue.

	Pounds.	Dollars.
1871	1,578,239	128,528
1881	1,888,065	243,353
1891	5,451,136	485,595
1901	4,530,390	567,992
1913	5,099,661	672,266
1914	22,545,681	1,792,612
1915	8,086,283	702,350
1916	3,050,794	219,177
1917	6,301,825	954,673
1918	2,013,312	342,017
1919	487,617	141,294
1920	1,422,594	373,616
1921	3,214,400	686,722

Glue Size

	Pounds.	Dollars.
1921	3,216	97

Not stated prior to 1921.

Glycerine, Crude.

	Pounds.	Dollars.
1871	213,568	34,498
1881	6,669,531	675,334
1891	11,983,796	874,161
1901	19,303,926	1,693,356
1913	34,399,129	4,247,032
1914	36,230,383	4,473,178
1915	18,691,929	2,185,393
1916	10,875,958	2,293,810
1917	4,078,803	1,260,454
1918	1,925,815	830,145
1919	1,163,952	368,680
1920	15,664,109	1,849,998
1921	11,656,067	1,576,018

Glycerine, Refined.

	Pounds.	Dollars.
1891	446,044	43,941
1901	1,195,589	128,940
1913	432,339	73,356
1914	551,306	90,502
1915	360,567	69,998
1916	303,463	132,469
1917	137,128	76,361
1918	19,750	17,438
1919	162,916	67,597
1920	1,911,278	414,316
1921	3,960,671	850,834

Gold Beaters' Molds and Skins.

	Number.	Dollars.
1871	.....	22,632
1881	.....	23,806
1891	.....	39,625
1901	.....	38,556
1913	.....	26,408
1914	.....	26,634
1915	.....	13,944
1916	.....	23,131
1917	.....	38,651
1918	.....	22,609
1919	77,635	9,235
1920	34,239	21,262
1921	22,003	62,918

Quantity not stated prior to 1919.

Gold Leaf.

	100 leaves.	Dollars.
1871	161	3,507
1881	451	10,820
1891	167	3,062
1901	115	2,704
1913	30,902	28,283
1914	37,527	32,482
1915	13,614	12,549
1916	1,547	773
1917	14,370	12,463
1918	8,472	6,334
1919	14	10
1920	5,638	3,792
1921	65,999	64,114

"Gold Size or Japan"

See "Varnish, Gold Size or Japan."

Grease Enfleurage, Not Containing Alcohol.

	Pounds.	Dollars.
1891	.....	263,950
1901	137,812	246,869
1913	92,446	124,195
1914	40,638	51,417
1915	28,407	31,578
1916	5,245	8,524
1917	26,636	33,945
1918	23,620	167,861
1919	13,357	196,345
1920	9,720	48,979
1921	19,726	241,958

Grease, Marrow, Crude.

	Pounds.	Dollars.
1918	44,366	8,774
1919	232,960	17,738
1920	37,511	4,035
1921	60,090	4,513

Quantity not stated prior to 1919.

Grease, Soluble, Used in Processes of Softening, Dyeing or Finishing.

	Pounds.	Dollars.
1913	.....	4,856
1914	.....	4,401
1915	.....	2,360
1916	.....	584
1917	.....	77
1918	.....	66
1919	4,888	690
1920	17	14
1921	451	59

Quantity not stated prior to 1919.

Grease, Wool, Crude

	Pounds.	Dollars.
1891	7,683,090	191,371
1901	11,627,387	260,646
1913	14,473,551	328,991
1914	12,284,248	292,988
1915	9,281,273	286,705
1916	7,617,713	350,535
1917	4,801,795	294,326
1918	4,481,486	338,877
1919	139,436	17,153
1920	2,366,366	140,909
1921	3,396,285	141,057

Grease, Wool, Refined

	Pounds.	Dollars.
1913	2,009,018	86,474
1914	2,691,591	121,847
1915	467,761	23,418
1916	214,599	14,794
1917	316,149	24,819
1918	31,218	2,552
1919	1,022	257
1920	74,031	1,504
1921	4,682	3,382

Grease and Oils, Sulphur Oil or Olive Foots

	Pounds.	Dollars.
1913	13,608,352	874,114
1914	11,714,795	772,055
1915	12,946,066	887,810
1916	12,684,936	1,055,292
1917	12,138,516	1,108,039
1918	1,712,640	175,814
1919	613,665	116,275
1920	10,409,509	1,603,496
1921	11,010,979	1,260,908

Grease and Oils, All Other (Excepting Fish Oils), Used in Soap Making, Etc.

	Pounds.	Dollars.
1881	253,808	12,809
1891	2,611,262	108,422
1901	5,202,465	228,129
1913	7,334,605	291,934
1914	10,684,016	449,561
1915	17,300,356	709,330
1916	11,324,635	482,479
1917	8,428,689	482,036
1918	26,345,640	2,591,044
1919	27,684,496	2,585,209
1920	29,271,846	3,203,887
1921	20,411,764	1,407,092

Grease, All Other, Not Specially Provided For

	Pounds.	Dollars.
1871	.....	38,420
1881	4,048,028	175,883
1891	4,563,255	93,874
1901	.....	.....
1913	.....	14,207
1914	.....	106,041
1915	.....	84,764
1916	.....	81,289
1917	.....	23,713
1918	.....	5,367
1919	333,704	40,349
1920	5,006	986
1921	31,867	2,759

Quantity not stated prior to 1919.

Guano

	Tons.	Dollars.
1871	94,345	3,313,914
1881	23,452	339,552
1891	11,162	194,167
1901	3,122	23,702
1913	16,462	313,891
1914	21,853	754,727
1915	20,050	534,371
1916	15,732	425,210
1917	3,563	73,394
1918	10,603	308,268
1919	8,218	293,425
1920	18,796	1,550,098
1921	37,578	3,158,064

Guiacol Carbonate

	Pounds.	Dollars.
1914	1,637	2,645
1915	6,907	11,125
1916	469	1,160
1917	200	6,458
1918	9,492	74,818
1919	2,063	40,407
1920	402,870	18,479
1921	3,465	12,951

Not stated prior to 1914.

Gum, Aloes

	Pounds.	Dollars.
1871	204,272	25,710
1881	171,303	24,878
1891	372,764	22,532
1901	841,130	29,048
1913	909,279	77,938
1914	918,402	64,983
1915	953,186	90,081
1916	1,597,811	152,140
1917	1,236,381	97,607
1918	1,230,595	95,846
1919	1,544,940	127,857
1920	1,771,344	178,048
1921	966,423	78,456

Gum, Amber and Amberoid, Crude

	Pounds.	Dollars.
1871	.....	180
1881	.....	42,400
1891	13,832	46,691
1901	16,947	119,405
1913	35,646	339,984
1914	22,485	117,375
1915	9,856	108,136
1916	443	3,599
1917	36	324
1918	734	1,280
1919	69	731
1920	3,406	12,036
1921	13,038	42,670

Gum, Arabic

	Pounds.	Dollars.
1871	12,317,518	1,700,249
1881	3,484,288	389,420
1891	986,760	124,235
1901	2,315,674	241,661
1912	6,586,737	568,631
1913	7,111,354	593,126
1914	2,727,447	182,370

Included in "Arabic or Senegal" after October 3, 1913.

Gum, Arabic or Senegal

	Pounds.	Dollars.
1914	3,492,682	240,066
1915	5,184,265	402,507
1916	7,617,494	679,928
1917	7,473,234	881,346
1918	6,033,341	1,242,281
1919	7,054,939	1,078,864
1920	6,926,635	881,780
1921	5,788,516	614,656

Gum, Asafoetida

	Pounds.	Dollars.
1871	90,130	12,789
1881	135,175	12,318
1891	3,424	261
1901	160,998	25,598
1913	134,579	55,868
1914	106,338	27,193
1915	51,727	12,656
1916	115,856	30,126
1917	107,486	52,877
1918	57,398	44,741
1919	48,119	71,261
1920	96,380	211,734
1921	162,008	271,807

Gum, Benzoin, Gamboge and Mastic

	Pounds.	Dollars.
1901	23,207	6,418
1913	105,967	41,981
1914	41,975	17,386
1915	106,506	42,940
1916	219,266	73,843
1917	170,950	68,305
1918	136,120	70,501

Mastic shown separately after 1917; Benzoin and Gamboge after 1918.

Gum, Benzoin

	Pounds.	Dollars.
1871	1,631	544
*1881	.....	.....
1891	42,144	16,712
1919	13,265	7,630
1920	18,948	8,068
1921	34,055	9,382

*See Copal, Kauri and Damar.

Gum, Camphor, Crude, Natural

	Pounds.	Dollars.
1871	624,258	92,345
1881	2,055,165	350,503
1891	1,666,074	468,025
1901	2,175,874	738,929
1913	3,477,760	979,355
1914	3,476,908	929,725
1915	3,715,387	998,555
1916	4,674,530	1,268,233
1917	6,605,630	1,991,408
1918	3,638,384	1,451,050
1919	2,622,792	1,189,768
1920	3,961,252	5,496,098
1921	2,045,273	1,847,572

Gum, Camphor, Refined

	Pounds.	Dollars.
1871	1,974	559
1881	134	36
1891	63	21
1901	77,313	39,507
1913	463,410	153,020
1914	624,508	201,992
1915	1,140,783	406,587
1916	2,304,197	754,498
1917	4,533,918	2,063,177
1918	1,145,244	800,318
1919	1,497,159	1,889,482
1920	1,367,263	2,843,755
1921	801,529	1,150,008

Gum, Camphor, Synthetic

	Pounds.	Dollars.
1915	16	3
1916	.....	.....
1917	460	174
1918	.....	.....
1919	.....	.....
1920	116,100	229,238
1921	123,686	23,060

Not stated prior to 1915.

Gum, Chicle

	Pounds.	Dollars.
1911	5,368,566	2,551,344
1912	5,266,285	2,433,924
1913	6,920,416	3,059,116
*1914	7,998,187	2,902,454

* Under provisions of law of 1909; imported between July 1 and October 3, 1913; stated separately after 1914.

Gum, Chicle, Crude

	Pounds.	Dollars.
1901	1,756,057	380,410
1914	1,080,695	383,717
1915	2,465,400	839,312
1916	2,728,159	915,817
1917	4,435,149	1,467,917
1918	4,589,501	2,076,143
1919	6,583,276	3,664,679
1920	6,959,169	4,838,836
1921	6,808,317	4,391,872

Gum, Chicle, Refined

	Pounds.	Dollars.
1914	472,766	214,257
1915	1,934,760	962,889
1916	2,302,186	1,283,809
1917	3,935,093	2,371,834
1918	2,028,367	1,473,992
1919	529,146	564,270
1920	448,219	550,828
1921	162,895	249,973

Gum, Copal

	Pounds.	Dollars.
1914	13,005,925	938,002
1915	12,528,887	813,985
1916	24,100,156	1,440,238
1917	25,621,685	1,583,070
1918	16,590,609	1,147,004
1919	18,921,007	4,001,022
1920	26,417,439	2,614,072
1921	32,188,183	4,145,167

Gum, Copal, Kauri and Damar

	Pounds.	Dollars.
1871	1,466,750	186,993
†1881	15,140,050	2,343,736
1891	15,245,524	1,637,677
1901	18,325,248	1,944,056
1912	24,824,399	2,017,737
1913	31,513,330	2,828,840
*1914	9,207,797	989,808
1921	.....	.....

* Under provisions of law of 1909; imported between July 1 and October 3, 1913; stated separately after 1914.

† 1881 includes Benzoin, Gamboge, Mastic and Shellac.

Gum, Damar

	Pounds.	Dollars.
1914	3,854,698	337,245
1915	5,388,644	563,056
1916	10,819,590	790,776
1917	9,200,064	797,115
1918	5,942,538	689,308
1919	4,270,909	528,458
1920	9,637,933	1,548,604
1921	5,710,548	1,249,864

Gum, Dextrine, Etc.

	Pounds.	Dollars.
1871	.....	10,072
1881	849,892	49,982
1891	6,228,352	212,968
1901	5,692,395	164,120
1913	5,096,891	180,296
1914	6,684,556	213,301

Stated separately after 1914.

Gum, Dextrine, Made from Potato Starch or Potato Flour

	Pounds.	Dollars.
1914	5,226,421	162,688
1915	4,595,949	154,337
1916	720,106	40,552
1917	210,948	17,882
1918	99,228	9,116
1919	421,971	39,533
1920	681,224	59,337
1921	566,670	35,824

Gum, Dextrine, Dextrine Substitutes, Burnt Starch or British Gum

	Pounds.	Dollars.
1914	471,491	18,180
1915	274,668	12,028
1916	154,882	10,049
1917	32,773	2,855
1918	505	50
1919	.....	.....
1920	77,238	6,764
1921	238,767	13,954

Gum, Dragon's Blood

	Pounds.	Dollars.
1871	.....	1,371
1881	.....	2,977
1891	2,088	541
1901	22,678	9,190
1913	14,553	5,916
1914	26,283	9,407
1915	23,110	8,446
1916	20,218	10,602
1917	48,026	19,137
1918	10,387	6,193
1919	24,064	10,121
1920	20,827	16,274
1921	90,508	11,758

Gum, Fir or Canada

	Pounds.	Dollars.
1871	.....	3,227
1881	.....	.....
1891	34,318	6,779

Gum, Gambier, or Terra Japonica

	Pounds.	Dollars.
1871	11,165,119	252,593
1881	38,629,547	1,688,394
1891	27,610,924	1,343,604
1901	26,811,197	824,444
1913	17,037,805	784,931
1914	16,449,663	625,855
1915	14,169,250	542,200
1916	12,602,251	888,985
1917	10,861,904	853,675
1918	8,956,082	953,000
1919	5,909,382	654,211
1920	10,207,013	852,663
1921	6,292,780	432,258

Gum, Gamboge

	Pounds.	Dollars.
1919	18,153	23,452
1920	470,739	117,560
1921	3,025	3,798

Not stated separately prior to 1919.

Gum, Kauri

	Pounds.	Dollars.
1914	6,554,887	1,097,989
1915	9,530,267	1,444,315
1916	9,958,953	1,394,527
1917	6,667,474	1,018,582
1918	5,867,216	1,029,036
1919	4,703,810	713,001
1920	8,424,661	1,152,075
1921	6,718,182	1,197,262

Gum, Lac, Crude, Seed, Button and Stick

	Pounds.	Dollars.
1871	73,758	10,647
1881	194,709	52,760
1891	795,757	127,547
1901	57,992	7,382
1913	293,010	36,832
1914	992,425	143,222
1915	1,126,167	88,293
1916	3,485,975	291,176
1917	5,473,174	637,846
1918	1,715,791	312,584
1919	833,784	183,220
1920	2,424,936	728,417
1921	1,806,726	646,407

Gum, Mastic

	Pounds.	Dollars.
1918	63,545	9,075
1919	10,281	4,232
1920	20,796	12,399
1921	10,954	5,391

Not stated separately prior to 1918.

Gum, Rosin, Crude

	Pounds.	Dollars.
1913	299,983	12,605
1914	2,742,083	58,084
1915	1,505,790	42,085
1916	5,571,325	146,250
1917	129,948	3,380
1918	54,334	2,840
1919	251,853	11,064
1920	141,935	7,223
1921	1,903	126

Gum, Senegal

	Pounds.	Dollars.
1901	1,107,763	130,959
1913	172,528	16,254
*1914	140,097	10,609

*Included in "Arabic or Senegal" after October 3, 1913.

Gum, Shellac

	Pounds.	Dollars.
1871	423,537	70,757
*1881	.....	.....
1891	6,290,225	1,078,584
1901	9,617,593	1,278,297
1913	22,069,610	3,046,750
1914	16,824,130	2,686,480
1915	24,308,145	3,018,296
1916	25,927,553	3,301,378
1917	32,847,434	7,709,228
1918	22,841,360	9,514,651
1919	14,268,653	6,462,754
1920	34,151,209	22,178,484
1921	23,871,866	16,634,073

*See Copal, Kauri and Damar.

Gum, Spruce, Crude and Refined

	Pounds.	Dollars.
1918	274	294
1919	509	438
1920	789	752
1921	1,397	2,519

Not stated prior to 1918.

Gum, Tragacanth

	Pounds.	Dollars.
1881	315,918	127,312
1891	717,404	211,183
1901	1,071,367	365,737
1913	1,401,721	463,800
1914	1,301,545	460,364
1915	1,025,081	355,119
1916	1,129,704	590,123
1917	473,556	320,751
1918	525,445	279,284
1919	785,725	909,652
1920	1,519,386	1,788,079
1921	324,619	484,605

Gum, Tragasol

	Pounds.	Dollars.
1913	1,028,804	23,968
1914	913,077	20,310
1915	761,390	16,295
1916	931,503	21,587
1917	882,914	21,663
1918	503,045	22,297
1919	662,762	40,006
1920	567,550	27,406
1921	606,184	21,366

Gums and Gum Resins, in a Crude State, Not Elsewhere Shown

	Pounds.	Dollars.
1881	.....	244,577
1891	.....	1,621,530
1901	.....	87,537
1913	2,704,615	216,886
1914	3,733,839	239,824
1915	4,088,233	255,469
1916	4,963,037	258,837
1917	3,126,764	248,700
1918	5,273,222	625,960
1919	3,232,094	630,683
1920	6,866,439	1,093,332
1921	6,183,215	670,635

Hemlock Bark, Extract for Tanning, Not Containing Alcohol

	Pounds.	Dollars.
1871	.....	3,256
1881	.....	4,021
1891	768,710	14,963
*1901	3,424,390	101,840
1915	5,263,296	173,998
1916	5,577,989	390,287
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	117,113	4,712

*1901 includes "Quebracho extract."

Hide Cuttings, Raw, and Other Glue Stock

	Pounds.	Dollars.
1871	.....	123,664
1881	.....	227,131
1891	.....	353,948
1901	.....	1,055,788
1913	.....	1,773,786
1914	.....	2,126,632
1915	.....	1,504,325
1916	.....	970,313
1917	33,631,032	1,451,319
1918	21,415,345	927,923
1919	8,833,386	518,266
1920	26,248,159	1,666,252
1921	36,120,019	2,270,932

Quantity not stated prior to 1917.

Honey

	Gallons.	Dollars.
1871	85,358	53,120
1881	51,158	29,542
1891	21,392	9,570
1901	129,136	58,688
1913	113,792	64,718
1914	49,163	30,291
1915	268,912	107,172
1916	124,268	55,592
1917	277,345	171,616
1918	159,339	213,006
1919	99,657	151,102
1920	764,244	1,019,250
1921	388,262	469,037

Hoofs, Horns, and Parts of, Unmanufactured

	Pounds.	Dollars.
1871	.....	15,264
1881	.....	398,211
1891	.....	587,643
1901	.....	311,924
1913	.....	320,192
1914	.....	254,872
1915	.....	156,126
1916	.....	110,169
1917	.....	171,718
1918	.....	357,399
1919	1,928,384	166,179
1920	4,894,749	292,353
1921	9,424,775	412,931

Quantity not stated prior to 1919.

Hop Extract and Lupulin

	Pounds.	Dollars.
1901	.....	2,893
1913	.....	34,338
1914	.....	49,451
1915	.....	24,407
1916	.....	3,805
1917	.....	1,759
1918	.....	174
1919	.....	19
1920	.....	20,503
1921	.....	17,690

Hops

	Pounds.	Dollars.
1871	100,884	12,811
1881	475,428	111,903
1891	3,789,264	1,706,824
1901	2,489,069	827,943
1913	8,471,776	2,843,299
1914	5,360,748	2,775,882
1915	11,710,534	2,738,644
1916	664,284	147,638
1917	212,029	54,701
1918	112,811	61,201
1919	6	14
1920	1,866,641	1,078,558
1921	3,714,536	2,073,574

Ichthyol

	Pounds.	Dollars.
1901	23,619	33,421
1913	44,347	61,796
1914	66,957	92,485
1915	51,847	70,664
1916	69,227	59,470
1917	91,884	60,757
1918	65,982	43,541
1919	19,623	9,830
1920	98,870	91,927
1921	54,309	31,616

Incense

	Dollars.
1901	702
1913	14,037
1914	24,382
1915	4,328
1916	5,431
1917	9,968
1918	12,951
1919	32,446
1920	84,877
1921	102,850

India Rubber and Substitutes for, Crude—Balata

	Pounds.	Dollars.
1901	7,635	1,987
1913	1,318,598	766,772
1914	1,525,351	789,261
1915	2,473,228	963,384
1916	2,549,303	997,827
1917	3,284,533	1,647,906
1918	2,468,403	1,285,869
1919	1,238,852	593,633
1920	2,013,737	1,278,551
1920	1,979,990	1,043,567

India Rubber and Substitutes for, Crude—Guayule Gum

	Pounds.	Dollars.
1913	10,504,945	4,354,400
1914	1,475,804	607,076
1915	5,116,165	1,442,464
1916	2,826,960	881,023
1917	2,872,372	764,484
1918	3,242,340	1,037,030
1919	2,990,253	761,060
1920	1,314,913	278,175
1920	995,123	197,058

India Rubber and Substitutes for, Crude—Gutta-Joolatong, or Pontianak

	Pounds.	Dollars.
1901	9,435,740	257,322
1913	45,444,282	2,197,948
1914	24,224,955	1,175,335
1915	14,765,765	704,613
1916	28,381,105	1,347,176
1917	25,738,004	1,058,577
1918	16,109,009	969,144
1919	11,363,283	1,199,216
1920	18,402,162	2,432,883
1921	6,774,189	1,075,771

Indigo, Carmined

	Pounds.	Dollars.
1881	.....	329
1891	28,175	33,145
1901	11,061	9,789
1912	9,047	5,903
1913	16,329	9,986
1914	2,130	1,333

Not stated after October 3, 1913.

Indigo, Crude, Natural or Synthetic

	Pounds.	Dollars.
1913	7,712,488	1,102,893
1914	8,252,528	1,115,128
1915	7,983,112	1,604,767
1916	6,794,518	8,451,501
1917	*545,105	960,068

* Figures cover period July 1 to September 8, 1916; stated separately afterward.

Indigo, Natural

	Pounds.	Dollars.
1871	2,101,807	2,115,914
1881	1,699,754	1,541,664
1891	3,999,644	1,692,299
1901	3,139,063	1,402,894
1917	1,231,986	2,449,361
1918	2,141,382	3,261,978
1919	794,251	961,610
1920	154,843	206,119
1921	61,967	121,820

Indigo, Synthetic

	Pounds.	Dollars.
1917	886,700	559,156
1918	942,946	553,246
1919	358,867	197,176
1920	520,347	351,440
1921	99,809	107,084

Indigo, Dyes Obtained From

		Dollars.
1914	.....	34,342
1915	.....	76,258
1916	.....	155,254
1917	.....	147,744

Stated as "Indigoids, etc." after 1917.

Indigo, Extracts or Pastes

	Pounds.	Dollars.
1871	.....	40,423
1881	1,540,185	141,163
1891	881,969	58,289
1901	181,168	12,292
1912	923,687	45,984
1913	242,998	43,417
1914	11,998	2,540

Not stated after October 3, 1913.

Indigoids Obtained from Indigo or Otherwise

	Pounds.	Dollars.
1918	13,037	40,984
1919	4,236	9,378
1920	70,461	177,736
1921	67,269	110,596

Stated as "Indigo Dyes, etc.," prior to 1918.

Ink, Printers'

		Dollars.
1901	.....	13,392
1913	.....	7,820
1914	.....	24,999
1915	.....	15,022
1916	.....	17,884
1917	.....	19,026
1918	.....	4,685
1919	.....	655
1920	.....	7,214
1921	.....	12,319

Ink, Writing and Copying

		Dollars.
1913	.....	28,518
1914	.....	18,941
1915	.....	22,765
1916	.....	21,931
1917	.....	26,400
1918	.....	11,962
1919	.....	15,615
1920	.....	14,846
1921	.....	10,584

Ink, All Other, Including Ink Powders

		Dollars.
1871	.....	85,823
1881	.....	151,358
1891	.....	116,354
1901	.....	61,653
1913	.....	4,918
1914	.....	6,931
1915	.....	6,196
1916	.....	3,481
1917	.....	5,095
1918	.....	8,529
1919	.....	7,129
1920	.....	8,460
1921	.....	14,875

Iodine, Crude

	Pounds.	Dollars.
1871	74,320	212,195
1881	162,863	336,998
1891	241,186	382,009
1901	262,052	655,492
1913	351,256	739,734
1914	230,391	538,447
1915	631,510	1,284,395
1916	1,044,525	2,447,764
1917	1,726,903	4,381,317
1918	253,231	536,799
1919	1,212,290	2,443,569
1920	520,443	927,269
1921	592,758	1,291,669

Iodine, Resublimed

	Pounds.	Dollars.
1871	956	3,499
1881	13	39
1891	35	106
1901	22	21
1913	40	96
1914	57	205
1915	3	7
1916	.....	.....
1917	2,610	9,088
1918	15,450	41,739
1919	6,525	22,657
1920	2,870	10,160
1921	2,300	8,051

Iodoform

	Pounds.	Dollars.
1901	21	93
1913	16	57
1914	86¼	301
1915	10	40
1916	.....	.....
1917	.....	.....
1918	1	4
1919	.....	.....
1920	.....	.....
1921	7	27

Ipecac

	Pounds.	Dollars.
1871	22,460	25,232
1881	39,385	41,372
1891	30,484	50,505
1901	52,143	112,465
1913	54,648	86,113
1914	78,654	110,316
1915	137,927	248,408
1916	203,734	484,828
1917	84,672	146,505
1918	60,972	122,281
1919	171,944	378,542
1920	94,429	211,631
1921	83,316	186,998

Iridium

	Ounces, troy.	Dollars.
1881	.....	1,730
1891	.....	333
1901	.....	6,072
1913	5,341	348,333
1914	2,185	154,842
1915	3,801	220,823
1916	2,496	146,055
1917	3,899	355,206
1918	2,815	307,954
1919	3,678	503,047
1920	4,969	846,462
1921	3,282	641,349

Iron, Chromate of, or Chromic C

	Tons.	D
1891	4,093	
1901	12,390	2
1913	49,772	5
1914	85,892	77,1
1915	159,421	772,22
1916	107,069	1,196,2
1917	113,385	1,648,72
1918	77,863	1,555,861
1919	71,592	2,439,7
1920	103,625	1,418,
1921	152,784	1,689

Iron in Pigs—Ferrosilicon

	Tons.	Do.
1919	6,091	521
1920	17,855	891,1
1921	7,331	397,99

Iron in Pigs—Ferromanganese

	Tons.	Dollars
1919	24,006	4,120,794
1920	38,973	3,980,743
1921	43,198	6,057,802

Iron in Pigs—Kentledge

	Tons.	Dollars.
1919	20	326
1920	.....	.....
1921	.....	.....

Iron in Pigs—Spiegeleisen

	Tons.	Dollars.
1919	27	1,018
1920	3,312	175,969
1921	2,127	109,140

Iron in Pigs—All Other

	Tons.	Dollars.
1919	9,989	296,644
1920	122,952	3,731,990
1921	49,630	2,094,834

Isinglass and Prepared Fish Sounds

	Pounds.	Dollars.
1871	.....	6,449
1881	393,801	243,239
1891	18,222	17,976
1901	5,608	12,341
1913	225,165	72,540
1914	146,364	56,433
1915	11,906	9,008
1916	13,750	14,498
1917	35,723	35,476
1918	31,490	23,339
1919	16,764	11,806
1920	26,844	29,341
1921	20,972	15,515

Jalap

	Pounds.	Dollars.
1871	46,135	29,688
1881	76,986	12,256
1891	92,107	24,141
1901	165,850	15,593
1913	227,275	44,632
1914	208,901	23,942
1915	176,047	18,485
1916	201,383	13,642
1917	168,639	14,315
1918	126,511	34,238
1919	95,103	40,667
1920	193,813	104,902
1921	62,148	22,290

Joss Sticks, or Joss Light

		Dollars.
1891	.....	1,307
1901	.....	9,706
1913	.....	13,851
1914	.....	6,888
1915	.....	21,720
1916	.....	36,968
1917	.....	36,115
1918	.....	30,660
1919	.....	26,996
1920	.....	36,137
1921	.....	25,056

Kelp

		Dollars.
1901	.....	13
1913	.....	4
1914	.....	350
1915	.....	.....
1916	.....	37
1917	.....	50
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	36

Kainite

	Tons.	Dollars.
1891	85,877	605,309
1901	187,470	1,235,124
1913	366,184	2,149,689
1914	526,112	2,579,619
1915	79,124	444,996
1916	64	1,795
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	272,048	5,599,980
1921	204,834	4,782,974

Lac, Dye

	Pounds.	Dollars.
1871	128,938	21,069
1881	194,623	39,064
1891	.....	.....
1901	4,922	671
1913	.....	.....
1914	.....	.....
1915	.....	.....
1916	89,000	13,804
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	398,028	54,849
1921	680	135

Lactarene, or Casein

	Pounds.	Dollars.
1913	8,803,639	651,062
1914	10,799,351	705,305
1915	7,919,742	498,897
1916	10,376,641	984,899
1917	12,319,111	1,843,492
1918	12,106,855	1,765,653
1919	8,125,135	959,995
1920	24,039,313	2,783,548
1921	14,179,764	1,570,069

Lakes, Dry or in Pulp, Not Specially Provided For

	Pounds.	Dollars.
1914	.....	59,603
1915	.....	153,430
1916	.....	29,839
1917	.....	11,230
1918	.....	8,301
1919	600	1,307
1920	8,901	7,870
1921	9,798	6,533

Not stated prior to 1914; quantity not stated prior to 1919.

Lanolin

	Pounds.	Dollars.
1913	.....	.....
1914	91,477	9,622
1915	89,583	10,448
1916	13,342	6,353
1917	710	267
1918	4,268	1,083
1919	13	4
1920	439	40
1921	2,898	550

Lard

	Pounds.	Dollars.
[illegible]	9,565	1,478
[illegible]	1,655	225
[illegible]	1,795	187
[illegible]	3,084	290
[illegible]	4,117	496
[illegible]	1,251	169

Included in next class after October 3, 1913.

Lard, Lard Compounds and Lard Substitutes

	Pounds.	Dollars.
[illegible]	124,385	13,665
[illegible]	729,792	79,632
[illegible]	2,405	289
[illegible]	66,682	7,522
[illegible]	1,131,998	266,806
[illegible]	3,191,726	870,361
[illegible]	746,073	192,918
[illegible]	4,988	1,146

Lead, Acetate of—Brown, Gray or Yellow

	Pounds.	Dollars.
1871	1,827	196
1891	.....	.....
1901	11	4
1913	42	8
1914	17,477	967
1915	.....	.....
1916	124	17
1917	225	97
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	3,854	306

Lead, Acetate, White

	Pounds.	Dollars.
1881	34	5
1891	13,279	707
1901	1,500	99
1913	21,599	1,177
1914	110,936	10,768
1915	31,096	1,809
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	220	212
1920	14	7
1921	112,785,058	5,145,452

Lead, Nitrate

	Pounds.	Dollars.
1871	513,280	35,358
1881	179,261	10,651
1891	639	46
1901	24,260	1,231
1913	11,305	605
1914	11,312	712
1915	.....	.....
1916	2,205	280
1917	224	22
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Lead Compounds, Not Elsewhere Specified

	Pounds.	Dollars.
1914	102,899	9,348
1915	86,514	7,471
1916	39,823	3,644
1917	32,887	3,069
1918	4,510	242
1919	2,409	321
1920	5,591	958
1921	13,224	2,102

Lead Pigments, N. E. S.

	Pounds.	Dollars.
1921	35,227	2,869

Not stated prior to 1921.

Lead, Pigs and Bars, Old Refuse Run Into Bars, Etc.

	Pounds.	Dollars.
1871	91,496,716	3,721,096
1881	4,322,068	159,129
1891	19,772,642	615,716
1901	.....	.....
1913	6,905,760	147,838
1914	1,309,204	36,307
1915	951,999	31,385
1916	1,794,889	90,815
1917	6,389,189	323,951
1918	345,561	16,155
1919	2,313,652	103,837
1920	15,242,621	735,608
1921	6,361	549

Leeches

		Dollars.
1891	.....	3,647
1901	.....	2,464
1913	.....	5,587
1914	.....	7,376
1915	.....	1,834
1916	.....	2,810
1917	.....	16,899
1918	.....	9,035
1919	.....	5,818
1920	.....	14,130
1921	.....	11,100

Lemon, Lime and Sour Orange Juice

	Pounds.	Dollars.
1871	.....	7,058
1881	.....	63,920
1891	.....	140,673
1901	.....	122,469
1913	.....	116,370
1914	.....	110,860
1915	.....	139,605
1916	.....	152,575
1917	.....	180,088
1918	.....	114,404
1919	1,933,465	277,031
1920	3,254,633	515,004
1921	1,009,320	165,827

Quantity not stated prior to 1919.

Licorice, Extract of, in Paste, Rolls or Other Forms

	Pounds.	Dollars.
1871	2,665,536	310,901
1881	872,900	111,072
1891	1,190,524	150,090
1901	878,634	96,404
1913	832,277	106,288
1914	946,016	122,210
1915	1,080,718	152,756
1916	1,702,927	230,129
1917	1,156,300	263,088
1918	734,976	229,812
1919	413,648	213,028
1920	1,116,621	773,970
1921	1,653,809	519,884

Licorice Root

	Pounds.	Dollars.
1871	3,199,958	80,306
1881	29,927,501	575,720
1891	55,093,585	897,186
1901	96,118,444	1,737,709
1913	105,032,429	1,806,756
1914	86,754,245	1,526,057
1915	82,289,410	1,557,442
1916	52,784,042	1,792,573
1917	59,398,644	2,189,441
1918	27,051,021	1,863,886
1919	42,644,661	3,426,007
1920	47,582,849	2,983,716
1921	59,963,895	3,755,726

Lime

	100 pounds.	Dollars.
1871	.....	11,315
1881	.....	24,968
1891	329,580	67,700
1901	477,755	65,413
1913	77,319	42,839
1914	65,036	42,926
1915	66,634	29,518
1916	92,321	42,537
1917	160,776	74,437
1918	147,080	77,733
1919	167,152	103,749
1920	278,046	219,986
1921	361,553	357,992

Lime, Chloride, or Bleaching Powder

	Pounds.	Dollars.
1871	32,111,839	635,910
1881	74,624,420	830,073
1891	111,156,006	1,431,470
1901	110,962,467	1,372,829
1913	76,092,327	619,492
1914	48,497,239	416,893
1915	18,402,130	197,975
1916	3,289,790	80,418
1917	65,564	3,888
1918	535	83
1919	539,596	11,363
1920	830,007	13,611
1921	4,884,344	144,029

Lime, Citrate

	Pounds.	Dollars.
1891	28,358	4,337
1901	2,416,088	299,583
1913	5,526,954	756,309
1914	3,119,924	496,517
1915	6,242,244	1,102,629
1916	8,127,364	1,763,652
1917	6,361,458	1,554,577
1918	4,013,606	814,073
1919	2,773,095	1,136,057
1920	10,929,314	2,908,023
1921	5,060,407	1,104,576

Litharge

	Pounds.	Dollars.
1871	70,889	3,870
1881	63,058	2,568
1891	87,970	4,334
1901	23,808	1,057
1913	34,022	1,649
1914	43,156	2,355
1915	14,779	774
1916	20,160	1,417
1917	220	42
1918	100	12
1919	.....	.....
1920	2	1
1921	21,100	2,653

Lithopone

	Pounds.	Dollars.
1914	7,245,151	218,133
1915	6,185,345	195,828
1916	5,122,083	414,573
1917	231,869	20,591
1918	448,000	29,199
1919	233,338	17,678
1920	2,284,955	170,522
1921	3,270,179	249,014

Not separately stated prior to 1914.

Litmus

	Pounds.	Dollars.
1881	.....	229
1891	.....	113
1901	.....	84
1913	.....	216
1914	.....	263
1915	.....	59
1916	.....	280
1917	.....	648
1918	.....	44
1919	5,016	4,177
1920	2,054	1,535
1921	5,303	3,419

Quantity not stated prior to 1919.

Logwood

	Tons.	Dollars.
1881	72,018	1,362,983
1891	84,381	1,842,964
1901	54,480	857,991
1913	36,952	475,484
1914	30,172	379,754
1915	54,704	722,410
1916	134,819	3,437,388
1917	121,762	4,127,031
1918	55,354	1,175,049
1919	20,871	412,952
1920	45,078	1,144,455
1921	56,977	1,697,436

Logwood and Other Dyewood Extracts

	Pounds.	Dollars.
1871	.....	12,537
1881	6,091,388	454,984
1891	3,282,227	376,803
1901	2,864,874	191,852
1913	2,258,206	111,575
1914	1,228,178	77,119
1915	2,061,368	144,207
1916	2,652,787	316,872
1917	1,147,448	164,711
1918	215,954	24,698
1919	265,774	51,041
1920	868,297	70,910
1921	116,185	25,500

Mace, Unground

	Pounds.	Dollars.
1871	69,370	41,571
1881	86,914	30,111
1891	186,801	85,978
1901	321,146	78,785
1913	611,005	244,177
1914	287,976	112,178
1915	342,618	124,128
1916	426,096	130,796
1917	436,346	145,126
1918	371,746	118,168
1919	321,339	107,739
1920	552,040	184,357
1921	581,408	150,651

Mace, Bombay, or Wild, Unground.

	Pounds.	Dollars.
1915	5,714	771
1916	22,400	6,720
1917	40,984	4,060
1918	1,791	624
1919	.....	.....
1920	3,236	397
1921	1,986	249

Not stated prior to 1915.

Madder, or Munjeet, or Indian Madder, Ground or Prepared.

	Pounds.	Dollars.
1871	7,532,380	795,968
1881	685,079	41,864
1891	672,260	39,806
1901	178,872	11,329
1913	30,602	2,803
1914	47,068	3,817
1915	29,327	3,524
1916	68,381	9,037
1917	78,852	12,472
1918	2,193	253
1919	.....	.....
1920	9,484	1,883
1921	11,226	2,817

Madder, or Munjeet, Extract of

	Pounds.	Dollars.
1921	2,300	1,340

Not stated prior to 1921.

Magnesia, Calcined.

	Pounds.	Dollars.
1871	24,874	7,881
1881	20,815	6,182
1891	7,157	1,658
1901	22,383	4,099
1913	72,579	12,592
1914	109,396	15,118
1915	145,806	16,012
1916	46,008	7,560
1917	56,056	17,576
1918	12,165	4,483
1919	572	1,318
1920	38,391	15,063
1921	17,664	6,909

Magnesia, Carbonate of, Precipitated.

	Pounds.	Dollars.
1871	132,619	15,031
1881	350,140	35,232
1891	76,015	5,603
1901	13,897	894
1913	77,190	3,811
1914	58,683	3,972
1915	49,731	2,554
1916	19,888	1,414
1917	25,092	5,077
1918	5,681	1,906
1919	232	131
1920	19,112	2,311
1921	3,760	666

Magnesia, Chloride of.

	Pounds.	Dollars.
1919	18,676	1,907
1920	214,107	3,371
1921	2,022,339	25,535

Not stated prior to 1919.

Magnesia, Sulphate of, or Epsom Salts.

	Pounds.	Dollars.
1871	85,582	1,108
1881	17,410	293
1891	16,370	207
1901	266,290	1,682
1913	9,345,099	35,739
1914	13,550,599	48,742
1915	7,005,598	32,862
1916	1,456,254	8,503
1917	54,200	875
1918	48,540	915
1919	4,350	167
1920	662,896	8,925
1921	6,591,977	105,776

Magnesite, Crude.

	Pounds.	Dollars.
1901	65,996,858	281,901
1913	33,654,260	111,276
1914	21,590,605	46,611
1915	37,463,509	80,625
1916	101,591,459	281,951
1917	179,292,638	748,951
1918	18,552,767	104,947
1919	1,975	57,434
1920	13,881	232,708
1921	50,927	450,872

Quantity stated in tons after 1918.

Magnesite, Calcined.

	Pounds.	Dollars.
1913	345,322,155	1,731,443
1914	288,989,577	1,485,273
1915	125,893,407	751,766
1916	32,372,610	282,768
1917	9,448,817	182,037
1918	22,764,029	535,202
1919	12,058	532,020
1920	13,619	365,623
1921	9,425	336,539

Quantity stated in tons after 1918.

Magnesium, Metal

	Pounds.	Dollars.
1920	17,088	19,492
1921	43,297	34,123

Not stated prior to 1920.

Malt Extract, Fluid, in Bottles or Jugs.

	Gallons.	Dollars.
1881	.....	1,036
1891	46,966	48,802
1901	1,757	1,908
1913	1,405	2,376
1914	1,284	2,087
1915	318	589
1916	64	92
1917	516	485
1918	.....	.....
1919	3	5
1920	.....	.....
1921	3,766	4,116

Malt Extract, Fluid, in Casks.

	Gallons.	Dollars.
1891	13,727	6,817
1901	8,244	4,382
1913	9,101	9,661
1914	10,333	10,050
1915	4,124	3,951
1916	2,488	2,313
1917	10,783	10,606
1918	.....	.....
1919	.....	.....
1920	20	51
1921	1,878	3,018

Malt Extract, Solid or Condensed.

	Pounds.	Dollars.
1891	.....	187
1901	.....	400
1913	.....	338
1914	.....	767
1915	.....	7,006
1916	.....	11,834
1917	.....	71
1918	.....	44
1919	.....	.....
1920	.....	.....
1921	1,563	364

Quantity not stated prior to 1921.

Manganese, Oxide and Ore of.

	Tons.	Dollars.
1871	.....	12,321
1881	642	20,432
1891	48,559	628,672
1901	134,582	1,163,971
1913	407,160	2,195,565
1914	288,837	1,841,472
1915	206,913	1,494,965
1916	492,907	5,358,087
1917	656,026	10,542,572
1918	557,711	11,944,515
1919	373,202	16,358,741
1920	323,901	8,086,001
1921	682,770	10,199,612

Manna.

	Pounds.	Dollars.
1871	.....	13,283
1881	35,456	15,061
1891	24,792	7,471
1901	24,883	12,084
1913	30,869	16,308
1914	88,240	32,848
1915	36,833	12,276
1916	68,447	32,434
1917	75,336	48,613
1918	95,097	51,062
1919	44,063	27,794
1920	112,[illegible]	52,145
1921	29,[illegible]	14,474

Manure Salts, Including Double Manure Salts, Not Specially Provided For.

	Tons.	Dollars.
1913	172,557	1,798,773
1914	260,977	2,757,013
1915	66,411	757,151
1916	2,278	42,368
1917	324	7,794
1918	225	9,047
1919	.....	.....
1920	240,899	8,215,063
1921	123,273	4,165,817

Marshmallow or Althea Flowers or Leaves.

	Pounds.	Dollars.
1913	561	27
1914	.....	.....
1915	4,695	245
1916	8,161	1,126
1917	21,713	2,033
1918	10,779	1,239
1919	4,869	770
1920	48,525	10,566
1921	13,699	1,524

Marshmallow or Althea Root, Crude.

	Pounds.	Dollars.
1913	4,270	538
1914	6,049	514
1915	6,645	1,209
1916	7,242	1,926
1917	23,120	6,846
1918	24,246	6,324
1919	12,519	5,316
1920	63,069	17,309
1921	25,493	5,491

Matches, Friction or Lucifer.

		Dollars.
1871	.....	.....
1881	.....	17,676
1891	.....	88,041
1901	.....	176,909
1913	.....	721,061
1914	.....	887,338
1915	.....	653,699
1916	.....	909,430
1917	.....	1,880,808
1918	.....	3,343,800
1919	.....	1,406,151
1920	.....	945,297
1921	.....	1,135,284

Meat Extracts, Fluid.

	Pounds.	Dollars.
1913	29,091	11,096
1914	8,768	3,958
1915	8,738	4,428
1916	172	264
1917	1,990	3,632
1918	12	22
1919	1,613	1,677
1920	11,584	16,078
1921	2,497	2,117

Meat Extracts, All Other.

	Pounds.	Dollars.
1913	106,313	138,489
1914	130,672	198,187
1915	97,656	139,936
1916	78,614	100,652
1917	93,108	155,766
1918	1,401	1,411
1919	9,482	12,111
1920	14,375	14,114
1921	57,283	57,737

Menthol.

	Pounds.	Dollars.
1913	49,896	289,058
1914	27,924	403,954
1915	11,020	236,759
1916	145,203	800,589
1917	172,767	898,191
1918	172,450	446,386
1919	243,745	1,055,920
1920	181,160	1,206,908
1921	239,297	1,575,824

Mercurial Medicinal Preparations, N. E. S.

	Pounds.	Dollars.
1921	6,769	8,149

Not stated prior to 1921.

Metacresol, Orthocresol and Paracresol

	Pounds.	Dollars.
1918	20,708	1,404
1919	11,200	1,221
1920	2,240	2,055
1921	204	175

Not stated prior to 1918.

Mica, Ground.

	Pounds.	Dollars.
1913	577,061	6,592
1914	401,003	4,002
1915	378,768	4,148
1916	436,037	4,302
1917	152,963	1,584
1918	111,037	1,384
1919	612	272
1920	6,995	10,223
1921	760	1,755

Milk, Sugar of.

	Pounds.	Dollars.
1881	.....	21,084
1891	251,448	41,330
1901	3,638	619
1913	9,026	2,583
1914	578,727	67,901
1915	250,212	28,154
1916	22,400	3,101
1917	.....	.....
1918	.....	.....
1919	67,648	37,520
1920	190	285
1921	48,832	11,214

Mineral Salts Obtained by Evaporation from Mineral Waters.

	Pounds.	Dollars.
1901	150,631	31,811
1913	103,337	35,420
1914	82,569	40,840
1915	10,757	9,642
1916	425	213
1917	626	313
1918	4,699,735	14,230
1919	1,414,460	10,237
1920	753,859	10,946
1921	97,708	13,814

Monazite Sand and Thorite.

	Pounds.	Dollars.
1913	1,145,010	94,425
1914	170,792	12,984
1915	1,493,028	133,819
1916	2,468,146	191,576
1917	4,020,023	365,531
1918	4,961,385	332,383
1919	952,304	55,898
1920	1,148,447	99,672
1921	1,036,420	71,745

Morphia, or Morphine, Sulphate of.

	Ounces.	Dollars.
1871	237	1,066
1881	22,358	55,531
1891	29,564	42,269
1901	50,819	147,517
1913	24,797	141,221
1914	5,805	14,220
1915	1,383	3,300
1916	2,685	8,906
1917	5,584	22,675
1918	25,115	262,263
1919	25,370	158,307
1920	7,460	32,111
1921	1,550	4,594

Moss and Seaweeds, Unmanufactured.

	Pounds.	Dollars.
1913	.....	159,189
1914	.....	246,196
1915	.....	183,029
1916	.....	224,928
1917	.....	182,868
1918	.....	234,465
1919	13,291,917	257,134
1920	6,872,608	460,070
1921	7,988,370	505,100

Quantity not stated prior to 1919.

Musk, in Grain.

	Ounces.	Dollars.
1913	.....	7,699
1914	.....	3,991
1915	.....	665
1916	.....	534
1917	.....	63,304
1918	.....	29,246
1919	6,269	7,158
1920	414	3,228
1921	3,059	30,985

Quantity not stated prior to 1919.

Musk, in Pod

	Ounces.	Dollars.
1891	6,167	59,291
1901	9,353	71,300
1913	12,994	124,855
1914	3,331	30,373
1915	10,115	65,882
1916	7,390	62,094
1917	12,415	80,026
1918	5,516	33,970
1919	10,240	176,008
1920	16,058	261,320
1921	5,823	96,788

Myrobalans Fruit

	Pounds.	Dollars.
1913	19,735,724	195,264
1914	24,256,373	438,672
1915	18,417,434	198,347
1916	25,612,765	375,401
1917	16,087,463	421,824
1918	4,408,522	110,444
1919	9,597,836	188,517
1920	62,196,177	993,932
1921	28,077,222	372,205

Naphthalene, Solidfying at Less Than 79 Degree C.

	Pounds.	Dollars.
1918	3,579,187	146,655
1919	3,591,108	109,381
1920	6,113,768	165,383
1921	13,925,789	515,078

Not stated prior to 1918.

Naphthalene, Solidifying at 79 Degree C. or Above

	Pounds.	Dollars.
1918	92,888	4,998
1919	60	10
1920	161,871	8,076
1921	3,974,776	439,233

Not stated prior to 1918.

Naphthol

	Pounds.	Dollars.
1921	54,341	64,248

Not stated prior to 1921.

Naphthylamine

	Pounds.	Dollars.
1918	11,761	5,895
1919	.....	.....
1920	.....	.....
1921	69,695	7,208

Not stated prior to 1918.

Nickel Oxides

	Pounds.	Dollars.
1913	1,124	398
1914	2,720	1,245
1915	1,071	505
1916	497	130
1917	21,488	6,478
1918	5,534	1,406
1919	7,774	2,430
1920	1,076	324
1921	1,155	165

Nitrobenzol

	Pounds.	Dollars.
1920	43,623	7,222
1921	23,781	2,790

Not stated prior to 1920.

Nitrotoluol

	Pounds.	Dollars.
1921	684	259

Not stated prior to 1921.

Nuts and Nutgalls for Dyeing and Tanning

	Pounds.	Dollars.
1901	.....	248,746
1913	.....	126,435
1914	.....	177,788
1915	.....	137,972
1916	.....	420,030
1917	.....	214,653
1918	.....	872,173
1919	1,760,746	362,975
1920	2,776,978	647,208
1921	2,248,951	532,070

Quantity not stated prior to 1919.

Nutgall, Extract

	Pounds	Dollars.
1913	145,919	18,228
1914	205,130	25,017
1915	157,084	23,202
1916	61,055	11,444
1917	45,760	9,867
1918	36,475	12,761
1919	34,033	12,508
1920	48,654	26,565
1921	4,219	1,114

Nutmegs, Unground

	Pounds.	Dollars.
1871	919,990	390,175
1881	999,504	573,917
1891	1,324,893	684,277
1901	1,922,689	376,447
1913	3,458,339	368,984
1914	1,755,653	184,779
1915	2,879,986	283,851
1916	3,590,959	420,503
1917	4,201,872	661,012
1918	3,437,056	528,950
1919	3,893,019	674,016
1920	3,651,319	691,849
1921	3,474,243	576,103

Nux Vomica

	Pounds.	Dollars.
1871	496,639	13,972
1881	1,172,969	17,649
1891	1,394,813	32,930
1901	1,581,757	30,560
1913	2,306,735	39,380
1914	1,891,072	32,983
1915	2,245,338	51,507
1916	4,355,964	134,366
1917	2,445,984	86,018
1918	2,739,804	111,711
1919	4,543,710	348,559
1920	4,470,323	275,904
1921	3,190,255	272,533

Oak Extract for Tanning Containing No Alcohol

	Pounds.	Dollars.
1921	1,484,032	84,353

Not stated prior to 1921.

Ocher and Ochery Earths

	Pounds.	Dollars.
1871	2,954,716	40,270
1881	3,589,600	65,393
1891	6,823,251	79,465
1901	7,410,929	55,501
1913	17,583,272	162,387
1914	21,641,976	154,547
1915	17,430,128	124,359
1916	18,049,375	153,880
1917	17,873,109	213,272
1918	7,087,557	131,055
1919	13,577,765	341,701
1920	13,264,966	229,526
1921	25,172,178	324,496

Oilcake, Cocoanut

	Pounds.	Dollars.
1917	29,867	400
1918	34,824	355
1919	3,474,947	51,637
1920	80,903,960	1,535,468
1921	117,208,327	2,038,122

Not stated prior to 1917.

Oilcake, Corn

	Pounds.	Dollars.
1913	102,700	1,282
1914	91,700	1,227
1915	37,500	532
1916	10,900	191
1917	15,200	324
1918	86,520	2,967
1919	1,000	29
1920	.....	.....
1921	.....	.....

Oilcake, Cottonseed

	Pounds.	Dollars.
1901	.....	.....
1913	400,686	3,322
1914	5,744,690	53,214
1915	1,743,113	15,706
1916	10,289,336	108,413
1917	34,281,702	372,812
1918	29,877,055	456,848
1919	51,377,272	1,049,182
1920	35,093,455	824,834
1921	22,061,743	423,801

Oilcake, Cottonseed and Linseed (Bibby's)

	Pounds.	Dollars.
1913	2,571,694	37,455
1914	2,406,035	24,332
1915	2,996,201	38,238
1916	10,819,746	129,843
1917	6,570,668	82,808
1918	2,751,880	84,985
1919	2,502,984	54,750
1920	1,998,424	56,740
1921	4,773,303	107,794

Oilcake, Peanut

	Pounds.	Dollars.
1920	1,120,277	30,006
1921	101,072	2,188

Not stated prior to 1920.

Oilcake, Rapeseed

	Pounds.	Dollars.
1913	.....	.....
1914	.....	.....
1915	47,278	11,204
1916	4,125	75
1917	2,000	26
1918	2,240	101
1919	.....	.....
1920	1,811,800	48,742
1921	38,404	445

Oilcake, Soya Bean

	Pounds.	Dollars.
1913	7,004,803	93,002
1914	3,163,260	38,255
1915	5,975,592	64,307
1916	10,468,001	103,081
1917	11,760,935	136,064
1918	586,820	9,964
1919	2,763,090	129,277
1920	16,273,785	408,895
1921	31,226,207	655,805

Oilcake, All Other Bean

	Pounds.	Dollars.
1913	579,794	5,914
1914	142,878	1,685
1915	724,072	13,035
1916	4,802,119	53,173
1917	895,079	11,400
1918	1,389,434	17,628
1919	614,192	14,508
1920	2,056,639	42,082
1921	10,374,980	263,166

Oilcake, All Other

	Pounds.	Dollars.
1901	1,749	172
1919	352,049	23,437
1920	4,832,987	111,056
1921	10,946,891	200,299

Not stated prior to 1919.

Oilcake, Meal

	Pounds.	Dollars.
1915	.....	5,575
1916	.....	5,629
1917	.....	1,320
1918	724,973	14,775
1919	465,132	8,978
1920	1,820	86
1921	110,816	1,521

Not stated prior to 1915; quantity not stated prior to 1918.

Oil, Alizarin Assistant, Etc., and Soaps Containing Castor Oil

	Gallons.	Dollars.
1891	1,469	818
1901	24,716	11,335
1913	137,187	62,923
1914	186,234	72,430
1915	48,376	18,820
1916	7,382	4,134
1917	5,193	3,010
1918	24	24
1919	47,008	32,121
1920	27	29
1921	1,147	711

Oil, Almond, Bitter

	Pounds.	Dollars.
1871	1,440	14,122
1881	3,642	12,342
1891	4,795	9,958
1901	4,686	9,998
1913	10,442	25,629
1914	7,525	21,954
1915	2,711	9,184
1916	3,602	18,400
1917	4,128	27,751
1918	1,887	18,154
1919	1,333	14,427
1920	4,428	19,245
1921	4,825	14,979

Oil, Almond, Sweet

	Pounds.	Dollars.
1871	18,959	5,681
1881	34,325	12,641
1891	51,384	12,249
1901	81,074	17,512
1913	152,300	63,583
1914	52,550	22,777
1915	43,321	23,495
1916	68,838	36,400
1917	38,939	23,431
1918	36,283	25,052
1919	29,586	26,456
1920	55,096	33,420
1921	43,515	21,963

Oil, Amber

	Pounds.	Dollars.
1871	2,279	583
1881	6,211	1,431
1891	3,444	804
1901	38,082	3,304
1913	18,707	1,027
1914	15,648	1,058
1915	2,720	239
1916	674	250
1917	7,580	2,932
1918	1,080	458
1919	3,900	4,530
1920	2,227	1,938
1921	1,084	354

Oil, Ambergris

	Pounds.	Dollars.
1891	78	1,509
1901	26	2,258
1919	2	212
1920	.....	.....
1921	.....	.....

Not stated where figures are not given.

Oil, Animal, Rendered and Combinations of, Not Specially Provided For

	Gallons.	Dollars.
1913	4,030	2,023
1914	115,871	23,527
1915	140,815	30,464
1916	93,135	31,985
1917	56,915	40,243
1918	23,028	19,757
1919	13,968	9,580
1920	2 685	2,498
1921	2,739	2,386

Oil, Anise, or Anise Seed

	Pounds.	Dollars.
1871	10,475	16,355
1881	27,232	49,660
1891	37,335	55,556
1901	57,564	67,926
1913	127,501	173,078
1914	42,672	55,692
1915	117,188	119,972
1916	206,609	156,411
1917	266,686	150,849
1918	160,774	122,459
1919	77,757	72,836
1920	218,382	227,172
1921	225,829	141,497

Oil, Bergamot

	Pounds.	Dollars.
1871	30,592	93,260
1881	41,796	95,390
1891	44,110	131,801
1901	75,640	143,740
1913	64,259	310,835
1914	38,647	148,753
1915	58,621	157,519
1916	69,440	178,300
1917	50,634	179,182
1918	57,689	241,465
1919	41,262	185,318
1920	92,708	369,727
1921	33,565	143,667

Oil, Birch Tar

	Pounds.	Dollars.
1914	40,123	1,898
1915	12,098	571
1916	47,757	3,183
1917	24,073	3,717
1918	110,035	22,443
1919	.....	.....
1920	220	108
1921	2,407	510

Not stated prior to 1914.

Oil, Cajeput

	Pounds.	Dollars.
1871	1,864	1,163
1881	7,019	4,421
1891	22,260	9,827
1901	12,350	4,472
1913	9,143	3,224
1914	14,110	4,757
1915	19,243	6,999
1916	96,626	18,992
1917	79,585	29,585
1918	10,563	3,538
1919	18,853	11,239
1920	27,775	18,629
1921	7,375	2,601

Oil, Camomile

	Pounds.	Dollars.
1881	25	316
1891	19	249
1901	25	456
1913	4½	88
1914	12	247
1915	3	67
1916	.....	.....
1917	.....	.....
1918	5	60
1919	.....	.....
1920	15	293
1921	11	128

Oil, Camphor

	Pounds.	Dollars.
1913	.....	.....
1914	18,874	3,160
1915	68	12
1916	8,333	5 768
1917	224	899
1918	236,000	21,245
1919	131	56
1920	3,635	1,279
1921	39,140	6,688

Oil, Caraway

	Pounds.	Dollars.
1871	6,305	8,772
1881	7,522	10,799
1891	.....	.....
1901	17,800	9,692
1913	10,107	10,453
1914	3,669	5,063
1915	18,107	20,730
1916	15,567	23,536
1917	3,723	4,208
1918	4,982	22,432
1919	.....	.....
1920	6,857	23,591
1921	6,071	11,388

Oil, Cassia and Cinnamon

	Pounds.	Dol
1871	25,734	2
1881	104,900	8
1891	27,984	22
1901	84,262	61,
1913	123,645	97,
1914	79,155	49,8
1915	54,962	34,
1916	121,034	85,
1917	153,244	130,
1918	109,178	114,
1919	123,150	201,2
1920	174,855	286,
1921	102,010	133,

Oil, Castor-

	Gallons.	Dollar.
1871	29,314	20,24
1881	1,464	95.
1891	2,073	1,287
1901	462	292
1913	5,241	3,396
1914	189,583	88,053
1915	63,005	29,706
1916	253,077	223,130
1917	323,703	286,068
1918	1,175,064	1,366,573
1919	482,216	845,682
1920	271,425	298,001
1921	99,017	124,315

Oil, Cedrat

	Pounds.	Dollars.
1891	311	2,836
1901	92	519
1913	115	555
1914	159	770
1915	788	3,721
1916	438	1,966
1917	.....	.....
1918	20	158
1919	336	531
1920	5	12
1921	.....	.....

Oil, Chinese Nut

	Gallons.	Dollars.
1871	131,832	79,881
1881	18,428	8,682
1891	67,312	30,641
1901	365,747	169,892
1913	6,004,045	2,738,000
1914	4,878,764	1,960,426
1915	4,723,584	1,649,270
1916	4,968,262	1,977,823
1917	6,816,631	4,046,132
1918	4,818,740	4,038,072
1919	6,218,557	7,248,054
1920	10,613,638	12,736,431
1921	4,439,975	4,817,082

Oil, Citronella and Lemon Grass

	Pounds.	Dollars.
1871	18,202	13,535
1881	103,152	84,290
1891	355,735	73,764
1901	288,247	59,593
1913	885,486	287,579
1914	702,516	263,149
1915	865,376	307,676
1916	1,054,211	387,631
1917	1,082,035	445,732
1918	906,853	369,234
1919	549,837	246,576
1920	1,062,821	673 029
1921	586,697	402,686

Oil, Civet

	Ounces.	Dollars.
1881	.....	38
1891	.....	.....
1901	792	1,326
1913	1,155	1,688
1914	250	392
1915	5,181	7,365
1916	.....	.....
1917	.....	.....
1918	3,277	5,136
1919	361	890
1920	3,000	7,290
1921	1,504	3,711

Oil, Cocoanut, Not Refined or Deodorized

	Pounds.	Dollars.
1871	195,462	87,288
1881	577,624	297,492
1891	10,665,054	569,833
1901	27,055,646	1,386,247
1913	50,493,858	4,182,654
1914	74,588,195	6,726,107
1915	63,249,424	5,430 581
1916	66,574,349	6,052,225
1917	79,359,009	9,141,536
1918	259,004,748	30,919,783
1919	347,200,288	43,769,146
1920	289,226,961	38 588,135
1921	166,417,897	20,287,334

Oil, Cod

	Gallons.	Dollars.
1913	466,494	135,969
1914	1,091,246	382,992
1915	1,372,413	433.142
1916	1,578,227	678.327
1917	1,163,566	728,804
1918	1,747,791	1,526,332
1919	932,948	1 091,722
1920	1,535,876	1,500,353
1921	877,521	561.195

Oil, Codliver

	Gallons.	Dollars.
1871	.....	20,476
1881	144,771	45,300
1891	249,894	98,865
1901	235,949	137,765
1913	262,516	137,872
1914	371,567	202,927
1915	264,630	157,090
1916	170,876	334,006
1917	265,557	659,192
1918	264,108	585,172
1919	161,291	449,614
1920	407,481	962,427
1921	337,139	506,849

Oil, Cottonseed

	Pounds.	Dollars.
1881	20	7
1891	.....	.....
1901	8,185	6,259
1913	3 383,906	185,396
1914	17,510,918	1,046,703
1915	15,162,360	728,961
1916	17,516,391	924,654
1917	12,931,339	985,616
1918	14,378,013	1,639,882
1919	20,964,012	2 685,027
1920	24 164,891	3,255,228
1921	1,315,265	131,334

Oil, Creosote, or Dead

	Gallons.	Dollars.
1901	2,072,428	155,331
1913	63,997,692	3,711,328
1914	59,271,677	3 822,919
1915	37,352,340	2,541,845
1916	40,496,987	3,206 780
1917	29,066,915	2,183,859
1918	3,857 869	329,840
1919	9,694,960	1,096 319
1920	8,338,703	1,171,717
1921	27,779,736	5,887,340

Oil, Croton

	Pounds.	Dollars.
1871	4,571	4,744
1881	2,542	2,112
1891	59	35
1901	462	219
1913	4,873	4,414
1914	6,186	5,649
1915	4,010	3,481
1916	.....	.....
1917	500	503
1918	1,200	1,274
1919	.....	.....
1920	2,478	3,142
1921	2,502	2,491

Oil, Essential and Distilled, Not Elsewhere Specified

		Dollars.
1901	.....	235,699
1913	.....	821,395
1914	.....	804,505
1915	.....	743,076
1916	.....	767,719
1917	.....	970,736
1918	.....	1,142,496
1919	.....	309,971
1920	.....	2,740,152
1921	.....	2,198,699

Oil, Eucalyptus

	Pounds.	Dollars.
1913	31,047	7,205
1914	68,053	21,079
1915	99,218	27,095
1916	110,736	29,993
1917	230,035	83,111
1918	269,275	97,874
1919	116,781	43,639
1920	291,482	137,190
1921	156,394	70,681

Oil, Fennel

	Pounds.	Dollars.
1871	373	392
1881	1,815	2,331
1891	774	463
1901	1,839	1,353
1913	5,702	4,160
1914	4,078	2,416
1915	409	441
1916	610	789
1917	.....	.....
1918	2,094	2,512
1919	661	942
1920	1,437	2,211
1921	20	30

Oil, Fish (Not Specially Provided for), Including Sod Oil

	Gallons.	Dollars.
1901	494,036	122,360
1913	519,121	152,803
1914	517,562	154,775
1915	439,741	108,739
1916	720,033	235,536
1917	2,280,013	863,059
1918	1,532,512	772,721
1919	1,263,374	1,019,195
1920	547,545	403,545
1921	324,646	166,792

Oil, Fixed or Expressed, Not Elsewhere Specified

	Pounds.	Dollars.
1901	.....	21,163
1913	.....	61,027
1914	.....	49,053
1915	.....	65,437
1916	.....	118,295
1917	.....	79,889
1918	.....	138,660
1919	1,088,636	174,463
1920	644,211	134,481
1921	554,659	83,459

Quantity not stated prior to 1919.

Oil, Fusel or Amylic and Butyl Alcohol

	Pounds.	Dollars.
1871	3,500	2,063
1881	961	290
1891	345,001	16,780
1901	2,572,343	139,190
1913	5,116,660	1,183,872
1914	5,679,801	888,869
1915	3,298,228	699,512
1916	2,162,617	695,196
1917	1,614,507	629,414
1918	1,706,528	546,589
1919	1,464,500	386,416
1920	6,192,079	1,199,995
1921	1,083,736	274,423

Oil, Hempseed

	Gallons	Dollars.
1881	10,615	6,751
1891	140,163	66,744
1901	528,763	254,216
1913	.....	.....
1914	375	123
1915	.....	.....
1916	10	5
1917	.....	.....
1918	25,000	21,654
1919	162,131	152,365
1920	161,346	157,596
1921	20,868	23,532

Oil, Jasmine

	Pounds.	Dollars.
1881	.....	1,629
1891	441	283
1901	1,097	3,705
1913	3,416	39,554
1914	611	14,360
1915	261	5,160
1916	978	27,592
1917	348	8,366
1918	5,840	89,310
1919	12,227	204,005
1920	3,888	145,641
1921	2,115	110,957

Oil, Juniper

	Pounds.	Dollars.
1871	7,672	4,758
1881	7,073	4,147
1891	5,798	2,778
1901	13,155	5,226
1913	17,356	13,037
1914	14,545	8,691
1915	10,388	7,637
1916	975	1,988
1917	4,661	21,514
1918	21,346	67,147
1919	1,146	6,758
1920	8,885	37,019
1921	12,546	39,000

Oil, Lavender, and Aspic or Spike Lavender

	Pounds.	Dollars.
1881	38,167	58,100
1891	92,224	102,819
1901	102,402	101,329
1913	227,013	482,779
1914	64,541	100,431
1915	72,989	133,375
1916	198,205	271,815
1917	144,663	237,081
1918	122,958	273,466
1919	111,411	240,823
1920	173,873	364,863
1921	84,626	183,488

Oil, Lemon

	Pounds.	Dollars.
1891	151,460	225,755
1901	268,341	221,041
1913	410,003	794,215
1914	329,440	752,714
1915	561,387	630,338
1916	435,030	360,862
1917	557,288	459,179
1918	577,600	452,681
1919	345,799	327,370
1920	769,488	917,214
1921	543,489	559,970

Oil, Lemon and Orange

	Pounds.	Dollars.
1871	67,619	144,405
1881	88,480	181,495

Stated separately after 1881.

Oil, Limes

	Pounds.	Dollars.
1891	3,681	4,063
1901	5,904	5,980
1913	13,075	15,025
1914	16,559	23,828
1915	9,154	9,279
1916	19,765	29,604
1917	26,551	49,001
1918	29,137	73,685
1919	16,272	24,273
1920	61,824	87,873
1921	51,266	101,928

Oil, Linseed or Flaxseed, Raw, Boiled or Oxidized

	Gallons.	Dollars.
1871	39,424	24,806
1881	9,682	4,711
1891	11,629	5,828
1901	14,036	7,598
1913	172,522	110,840
1914	187,933	91,544
1915	537,810	249,611
1916	56,899	36,399
1917	110,809	76,530
1918	51,271	34,370
1919	957,573	1,199,911
1920	4,566,008	6,583,515
1921	1,996,250	1,905,330

Oil, Mace

	Pounds.	Dollars.
1871	187	160
1881	355	321
1891	605	613
1901	685	440
1913	5,737	2,611
1914	2,652	1,380
1915	4,776	2,605
1916	3,400	2,224
1917	3,000	2,414
1918	.....	.....
1919	.....	.....
1920	200	468
1921	.....	.....

Oil, Neroli, or Orange Flower

	Pounds.	Dollars.
1891	2,757	51,984
1901	4,319	41,922
1913	38,365	171,932
1914	15,928	73,265
1915	13,251	31,478
1916	34,447	66,768
1917	23,639	66,394
1918	32,687	72,370
1919	10,595	52,853
1920	49,835	214,919
1921	22,780	95,207

Oil, Olive (for Manufacturing Purposes Only)

	Gallons.	Dollars.
1871	139,051	111,450
1881	172,030	112,916
1891	503,947	242,889
1901	1,303,474	530,607
1913	725,100	483,329
1914	799,260	503,093
1915	717,361	498,689
1916	919,633	711,468
1917	787,348	736,520
1918	166,115	148,672
1919	119,842	185,767
1920	255,835	434,561
1921	261,689	267,579

Oil, Olive, Edible

	Gallons.	Dollars.
1871	142,476	257,868
1881	216,788	380,428
1891	600,936	731,006
1901	991,799	1,180,443
1913	4,772,775	6,227,526
1914	6,391,827	8,291,831
1915	6,622,246	8,119,512
1916	6,924,606	9,324,361
1917	7,707,094	10,769,754
1918	2,562,538	2,935,457
1919	4,071,766	7,573,551
1920	6,640,601	14,887,944
1921	4,683,204	12,214,272

Oil, Orange

	Pounds.	Dollars.
1891	27,952	44,500
1901	72,218	109,832
1913	77,797	155,299
1914	104,491	222,118
1915	97,014	140,246
1916	97,359	134,025
1917	170,722	322,373
1918	196,846	330,507
1919	126,532	246,202
1920	282,349	953,514
1921	155,765	543,098

Oil, Origanum, Red or White

	Pounds.	Dollars.
1871	33,612	17,526
1881	31,398	14,979
1891	.....	.....
1901	10,365	2,205
1913	8,822	8,502
1914	507	630
1915	14,349	15,111
1916	24,222	24,291
1917	54,671	45,859
1918	3,851	3,424
1919	2,637	5,506
1920	11,522	23,206
1921	8,950	16,438

Oil, Palm

	Pounds.	Dollars.
1881	9,325,090	369,355
1891	3,567,223	135,879
1901	8,081,252	419,466
1913	48,442,662	3,368,815
1914	61,753,482	4,118,077
1915	31,482,292	2,024,827
1916	40,621,318	2,918,523
1917	36,074,059	3,316,417
1918	27,408,494	2,527,872
1919	19,280,702	1,651,230
1920	50,165,387	6,529,094
1921	31,076,224	2,765,953

Oil, Palm Kernel

	Pounds.	Dollars.
1913	23,570,152	1,850,270
1914	30,588,958	2,826,972
1915	4,908,702	446,979
1916	6,273,340	479,738
1917	1,857,038	197,237
1918	18,018	2,583
1919	1,045,345	144,826
1920	53,508	9,900
1921	2,769,144	316,754

Oil, Paraffin

	Gallons.	Dollars.
1913	116,192	35,193
1914	167,584	55,923
1915	60,412	11,609
1916	774,250	149,625
1917	409,746	40,710
1918	24,628	7,502
1919	551,142	75,451
1920	819,111	161,792
1921	4,344	3,792

Oil, Peanut

	Gallons.	Dollars.
1913	1,221,676	820,359
1914	1,332,108	915,439
1915	830,638	565,707
1916	1,466,043	824,327
1917	3,018,468	2,028,096
1918	8,279,927	7,296,214
1919	11,393,615	11,493,969
1920	22,025,653	27,752,099
1921	2,444,794	2,347,980

Oil, Peppermint

	Pounds.	Dollars.
1891	3,049	3,918
1901	1,201	1,353
1913	3,529	13,097
1914	18,794	41,367
1915	9,200	8,959
1916	17,066	12,573
1917	23,159	37,734
1918	29,360	28,953
1919	118,741	139,466
1920	148,227	270,333
1921	28,732	31,596

Oil, Perilla

	Pounds.	Dollars.
1913	.....	.....
1914	117,893	6,090
1915	69,174	5,485
1916	65,509	5,504
1917	442,619	39,276
1918	1,015,953	105,723
1919	1,430,163	201,412
1920	8,107,141	1,376,738
1921	3,783,757	466,504

Oil, Poppy Seed, Raw, Boiled or Oxidized

	Gallons.	Dollars.
1881	.....	1,279
1891	7,604	4,627
1901	3,125	2,388
1913	9,605	7,788
1914	7,973	6,422
1915	11,645	7,072
1916	6,337	6,816
1917	2,789	3,734
1918	20	112
1919	1,296	1,952
1920	422	1,451
1921	1,051	2,420

Oil, Rapeseed

	Gallons.	Dollars.
1881	.....	.....
1891	577,684	13,390
1901	.....	.....
1913	1,564,659	784,750
1914	1,463,099	704,747
1915	1,491,999	784,235
1916	2,534,679	1,414,022
1917	1,005,391	651,314
1918	2,751,875	2,697,152
1919	2,091,052	2,264,594
1920	1,229,526	1,525,747
1921	1,171,930	1,103,134

Oil, Rosemary, or Anthoss

	Pounds.	Dollars.
1881	.....	6,597
1891	64,361	33,346
1901	31,283	14,723
1913	284,144	100,930
1914	85,243	30,177
1915	93,663	44,636
1916	95,815	30,544
1917	228,080	71,035
1918	204,105	71,541
1919	51,146	36,101
1920	309,210	228,749
1921	44,848	35,001

Oil, Roses, Attar of

	Ounces.	Dollars.
1871	10,146	46,242
1881	13,168	75,130
1891	43,599	188,612
1901	45,482	192,874
1913	133,325	791,870
1914	40,454	301,000
1915	60,011	252,592
1916	40,887	169,744
1917	11,235	85,673
1918	22,653	89,049
1919	24,827	210,925
1920	80,094	657,690
1921	36,886	263,980

Oil, Seal

	Gallons.	Dollars.
1871	188,076	100,984
1881	100	72
1891	250	97
1901	1,294	458
1913	8,972	3,131
1914	179,734	64,963
1915	479,571	166,836
1916	510,062	271,979
1917	518,657	301,138
1918	143,202	109,328
1919	583,553	612,241
1920	27,951	25,101
1921	107,802	29,726

Oil, Sesame, or Sesamum Seed

	Pounds.	Dollars.
1871	6,012	427
1881	540,520	40,519
1891	328,091	22,084
1901	626,189	48,637
1913	1,936,647	158,442
1914	1,389,649	118,075
1915	341,545	28,653
1916	257,874	22,293
1917	76,057	11,874
1918	346,211	51,178
1919	2,335,193	357,564
1920	5,237,695	804,529
1921	79,274	15,493

Oil, Soya Bean

	Pounds.	Dollars.
1913	12,440,406	635,882
1914	16,363,645	830,870
1915	19,210,028	901,643
1916	98,171,275	5,131,582
1917	162,734,010	11,410,606
1918	336,999,646	32,836,034
1919	244,104,805	28,878,540
1920	196,108,919	25,280,085
1921	49,843,640	3,991,747

Oil, Thyme

	Pounds.	Dollars.
1871	725	737
1881	30,401	16,023
1891	49,487	20,549
1901	37,634	29,729
1913	138,972	105,296
1914	89,148	63,864
1915	99,580	88,498
1916	92,097	85,913
1917	91,163	90,868
1918	206,185	242,254
1919	98,324	135,914
1920	102,973	179,370
1921	81,327	116,595

Oil, Valerian

	Pounds.	Dollars.
1871	31	283
1881	117	600
1891	.....	.....
1901	61	148
1913	40	124
1914	6	12
1915	15	36
1916	.....	.....
1917	.....	.....
1918	366	3,690
1919	.....	.....
1920	57	323
1921	.....	.....

Oil, Whale (Includes Sperm Oil Prior to October 3, 1913)

	Gallons.	Dollars.
1871	146,797	82,758
1881	65,100	22,915
1891	51,005	14,813
1901	1,322	311
1913	1,166,339	278,208
*1914	82,756	26,553

* July 1 to October 3, 1913. Stated separately after October 3, 1913.

Oil, Whale, Sperm

	Gallons.	Dollars.
1914	157,142	66,652
1915	92,033	38,612
1916	59,816	25,191
1917	48,178	37,512
1918	60,328	70,229
7919	99,347	120,416
1920	124,183	102,128
1921	1,739	637

Oil, Whale, All Other

	Gallons.	Dollars.
1914	290,745	94,424
1915	604,503	215,644
1916	230,762	79,569
1917	415,163	234,097
1918	1,134,021	574,907
1919	156,915	133,998
1920	508,770	625,590
1921	308,917	113,120

Oleo, Stearin

	Pounds.	Dollars
1913	9,540,347	967,000
1914	5,679,535	497,973
1915	2,644,460	226,661
1916	910,478	81,280
1917	1,113,277	114,640
1918	6,575,379	1,118,413
1919	1,601,574	314,308
1920	1,307,847	274,545
1921	842,908	92,279

Opium, Aqueous Extract of, and Tinctures of, as Laudanum, Etc.

		Dollars.
1891	.....	219
1901	.....	660
1913	.....	671
1914	.....	5,279
1915	.....	5,565
1916	.....	6
1917	.....	222
1918	.....	.....
1919	.....	70
1920	.....	46
1921	.....	976

Opium, Crude, or Unmanufactured, Not Adulterated

	Pounds.	Dollars.
1871	158,620	918,974
1881	385,059	1,791,415
1891	621,749	1,582,461
1901	491,448	1,030,209
1913	441,277	2,130,154
1914	441,621	1,731,589
1915	353,006	1,699,217
1916	117,870	533,183
1917	43,016	330,652
1918	21,341	265,283
1919	74,264	977,596
1920	420,976	4,539,465
1921	78,842	428,188

Opium, Dried

	Pounds.	Dollars
1871	37,825	353,334
1881	76,446	761,349
1891	61,341	453,369
1901	139,519	1,141,518
1913	49,071	389,864
1914	32,095	205,684
1915	38,977	308,028
1916	44,052	243,790
1917	77,990	640,563
1918	98,498	1,514,127
1919	101,908	1,776,787
1920	1,672	14,433
1921	149	436

Opium Salts and Other Alkaloids of, Not Specially Provided for

	Ounces.	Dollars.
1871	.....	89
1881	97	15
1891	.....	.....
1901	.....	.....
1913	9,672	28,587
1914	11,593	64,528
1915	8,626	49,584
1916	2,360	9,981
1917	34,179	163,028
1918	20,479	126,882
1919	56,895	318,361
1920	28,793	155,979
1921	573	1,315

Orange Mineral

	Pounds.	Dollars
1891	1,827,569	87,405
1901	869,271	50,587
1913	287,535	18,595
1914	362,963	24,692
1915	166,202	12,279
1916	108,275	10,589
1917	54,834	7,852
1918	9,506	1,407
1919	.....	.....
1920	62,534	6,147
1921	93,340	10,987

Orchil, or Orchil Liquid

	Pounds.	Dollars.
1871	.....	3,942
1881	.....	.....
1891	.....	81,974
1901	.....	31,937
1913	.....	27,386
1914	.....	21,569
1915	.....	37,802
1916	.....	114,603
1917	.....	98,905
1918	.....	55,612
1919	259,124	30,651
1920	634,570	63,380
1921	520,275	77,409

Quantity not stated prior to 1919.

Orris, or Iris, Root

	Pounds.	Dollars.
1881	108,132	11,199
1891	230,448	25,376
1901	301,220	15,605
1913	357,963	37,326
1914	580,484	71,941
1915	554,125	52,893
1916	602,289	62,552
1917	527,539	61,494
1918	465,960	55,728
1919	406,373	68,956
1920	1,334,628	146,921
1921	235,522	17,602

Osmiridium

	Ounces, troy.	Dollars.
1914	666	43,659
1915	911	58,014
1916	302	9,654
1917	333	24,293
1918	158	16,015
1919	809	77,347
1920	2,814	302,070
1921	3,619	365,245

Not stated prior to 1914.

Osmium

	Ounces, troy.	Dollars.
1919	1,957	119,328
1920	624	29,021
1921	351	23,275

Not stated prior to 1919.

Palladium

	Ounces, troy.	Dollars.
1901	.....	1,455
1914	3,986	169,171
1915	40	2,779
1916	8,011	304,559
1917	1,663	95,331
1918	1,317	148,938
1919	2,020	77,642
1920	6,518	599,471
1921	5,817	424,472

Palm and Palm Nut Kernels

	Pounds.	Dollars.
1881	.....	819
1891	.....	1,273
1901	.....	.....
1913	.....	4,872
1914	.....	23,127
1915	.....	31,900
1916	.....	1,104,885
1917	.....	626,435
1918	.....	338,778
1919	19,590,551	339,708
1920	6,758,218	420,949
1921	4,545,057	217,080

Quantity not stated prior to 1919.

Paraffin and Paraffin Wax

(Not including oil.)

	Pounds.	Dollars.
1891	62,439	4,880
1901	263,251	13,484
1913	11,521,205	508,802
1914	7,501,463	327,402
1915	5,628,811	254,389
1916	8,526,929	418,362
1917	10,641,404	654,186
1918	8,881,023	656,474
1919	6,600,404	754,351
1920	8,687,728	820,299
1921	5,714,653	630,575

Paris Green and London Purple

	Pounds.	Dollars.
1901	311,753	6,229
1913	165,820	7,692
1914	33,373	3,572
1915	16,800	2,975
1916	31,917	8,163
1917	.....	.....
1918	48	189
1919	18	14
1920	.....	.....
1921	992	372

Peanuts, Unshelled

	Pounds.	Dollars.
1871	5,139,877	128,318
1881	40,333	724
1891	304,335	6,553
1901	735,718	18,762
1913	12,140,612	459,003
1914	17,308,778	655,448
1915	15,075,387	480,693
1916	9,623,411	353,790
1917	7,710,082	330,769
1918	3,096,678	152,313
1919	1,304,409	92,291
1920	9,786,996	792,084
1921	5,968,952	466,224

Peanuts, Shelled

	Pounds.	Dollars.
1871	720,982	25,560
1881	5,751	432
1891	148,350	18,313
1901	55,621	1,938
1913	7,823,173	428,188
1914	21,819,101	987,499
1915	11,696,507	445,143
1916	19,739,888	740,276
1917	27,548,928	1,200,308
1918	70,947,036	4,358,197
1919	15,855,266	1,086,115
1920	102,285,543	9,534,498
1921	56,137,230	3,543,412

Pearl Hardening for Paper Makers' Use

		Dollars.
1901	.....	2,165
1913	.....	8,612
1914	.....	5,294
1915	.....	3,609
1916	.....	593
1917	.....	183
1918	.....	30
1919	.....	420
1920	.....	143
1921	.....	222

Pepper, Black or White, Unground

	Pounds.	Dollars.
1871	6,895,551	485,635
1881	8,661,633	741,119
1891	.....	.....
1901	15,022,896	1,752,167
1913	27,568,317	2,855,184
1914	21,809,875	2,179,995
1915	26,620,992	2,685,522
1916	32,174,546	3,789,466
1917	26,586,256	4,035,410
1918	32,132,953	4,928,582
1919	22,493,585	3,590,072
1920	27,736,965	4,693,669
1921	24,593,628	2,819,661

Pepper, Cayenne, Capsicum or Red Pepper, Ground or Unground.

	Pounds.	Dollars.
1913	4,022,755	412,823
*1914	984,716	130,076

*Figures are for July 1 to October 3, 1913. Stated separately after October 3, 1913.

Pepper, Capsicum, Red or Cayenne, Unground.

	Pounds.	Dollars.
1871	140,936	9,241
1881	66,834	8,414
1891	2,302,326	123,092
1901	2,038,797	145,137
1914	6,522,463	711,966
1915	3,093,232	332,616
1916	4,354,041	477,044
1917	4,734,381	47,343
1918	2,712,857	315,481
1919	1,950,920	226,294
1920	2,758,607	379,228
1921	2,683,311	391,199

Pepper, Capsicum, Red or Cayenne, Ground.

	Pounds.	Dollars.
1871	1,376	603
1881	25,353	3,829
1891	.....	.....
1901	.....	.....
1914	1,322,308	165,807
1915	1,827,666	207,379
1916	2,265,154	271,244
1917	3,636,876	455,897
1918	1,891,744	280,071
1919	2,112,371	626,188
1920	2,399,677	941,418
1921	2,537,883	624,078

Perfumery, Alcoholic, Toilet Waters, Etc.

	Pounds.	Dollars.
1871	.....	272,302
1881	.....	461,592
1891	.....	258,832
1901	.....	594,282
1913	286,025	819,685
1914	301,443	771,758
1915	240,075	689,930
1916	281,387	828,727
1917	359,200	1,085,369
1918	267,733	1,014,647
1919	221,041	911,014
1920	1,620,601	3,533,172
1921	1,774,025	3,639,951

Persian Berry Extracts for Dyeing.

	Pounds.	Dollars.
1881	.....	.....
1891	.....	1,702
1901	.....	511
1913	64,883	7,173
1914	115,336	12,924
1915	92,876	12,245
1916	17,353	4,227
1917	8,507	1,837
1918	.....	.....
1919	.....	.....
1920	17,166	6,322
1921	.....	.....

Petroleum, Crude

	Gallons.	Dollars.
1871	356	102
1881	694	160
1891	.....	214
1901	118	17
1913	450,542,222	7,608,796
1914	843,080,788	11,779,938
1915	653,757,824	8,918,138
1916	859,736,962	12,226,179
1917	1,036,417,009	14,181,349
1918	1,348,419,493	18,239,207
1919	1,929,339,105	24,166,677
1920	2,824,332,765	33,791,375
1921	5,609,224,120	71,030,595

Petroleum, Refined, Benzine

	Gallons.	Dollars.
1913	14,162,423	1,266,896
1914	16,152,167	1,399,630
1915	6,783,627	727,855
1916	5,100	2,150

Not stated separately after 1916.

Petroleum, Refined, Gasoline and Naphtha

	Gallons.	Dollars.
1913	570	118
1914	14,175	1,992
1915	1,136,797	34,701
1916	2,638	458

Not stated separately after 1916.

Petroleum, Refined—Benzine, Gasoline and Naphtha

	Gallons.	Dollars.
1917	10,744,592	1,396,101
1918	11,069,898	1,473,027
1919	11,760,856	1,867,863
1920	25,637,592	3,147,635
1921	31,778,815	3,711,948

Petroleum, Refined, All Other

	Gallons.	Dollars.
1871	152	176
1881	21	7
1891	826,801	34,098
1901	24,532	5,897
1913	1,464,412	307,479
1914	1,796,093	430,664
1915	496,968	98,696
1916	1,727,683	134,815
1917	32,259,588	2,221,816
1918	43,927,718	2,406,764
1919	37,299,989	2,585,007
1920	59,040,338	3,945,468
1921	97,728,455	7,138,962

Phenolic Resin (Synthetic).

	Pounds.	Dollars.
1917	134,690	11,339
1918	12	257
1919	69	2,238
1920	2,575	1,571
1921	1,607	2,698

Not stated prior to 1917.

Phenolphthalein.

	Pounds.	Dollars.
1914	14,076	14,090
1915	49,326	46,295
1916	11,432	9,740
1917	3,576	7,794
1918	.....	.....
1919	100	1,200
1920	200	726
1921	.....	.....

Not stated prior to 1914.

Phenylenediamine.

	Pounds.	Dollars.
1919	2,246	1,225
1920	2,929	2,431
1921	.....	.....

Not stated prior to 1919.

Phosphates, Crude.

	Tons.	Dollars.
1871	.....	165,703
1881	.....	918,835
1891	32,883	287,057
1901	23,535	152,780
1914	23,551	177,838
1915	2,601	26,982
1916	8,190	69,820
1917	96	1,420
1918	6	60
1919	32	323
1920	54	1,681
1921	541	9,725

Phosphorus.

	Pounds.	Dollars.
1871	.....	32,872
1881	.....	52,113
1891	151,166	53,590
1901	38,315	15,125
1914	605	264
1915	612	251
1916	.....	.....
1917	4,010	2,306
1918	88,692	57,572
1919	564,043	205,597
1920	99,806	23,462
1921	361,332	70,644

Photographic Chemicals (Coal Tar).

	Pounds.	Dollars.
1917	11,322	103,580
1918	11,492	80,863
1919	14,261	99,318
1920	15,477	72,109
1921	30,727	80,632

Not stated prior to 1917.

Pimento (Allspice), Unground.

	Pounds.	Dollars.
1871	1,386,542	55,289
1881	1,774,344	159,960
1891	1,195,270	49,326
1901	4,254,196	208,793
1913	7,212,109	259,508
1914	1,517,971	54,506
1915	1,330,158	36,769
1916	1,355,575	46,241
1917	3,277,578	118,401
1918	4,064,556	182,847
1919	1,193,629	54,677
1920	4,064,481	314,583
1921	3,325,870	176,718

Pitch, Burgundy.

	Pounds.	Dollars
1881	58,285	1,554
1891	212,627	3,520
1901	171,771	3,650
1913	977,629	43,799
1914	1,055,327	40,480
1915	131,967	4,051
1916	14,756	673
1917	25	3
1918	100	12
1919	.....	.....
1920	.....	.....
1921	3,776	476

Pitch, Marine Glue.

	Pounds.	Dollars.
1913	303,186	14,392
1914	317,506	15,154
1915	56,532	3,807
1916	481,633	20,496
1917	327,311	18,447
1918	276,702	18,860
1919	164,348	11,287
1920	173,336	11,194
1921	230,177	15,188

Plaster Rock, or Gypsum, Crude.

	Tons.	Dollars.
1871	112,900	88,256
1881	144,682	128,107
1891	167,606	176,588
1901	197,144	213,317
1913	398,927	462,889
1914	417,580	482,320
1915	260,161	316,308
1916	306,757	372,308
1917	230,392	276,952
1918	141,106	176,959
1919	69,538	92,548
1920	191,913	282,601
1921	234,719	359,027

Plaster Rock, or Gypsum, Ground or Calcined.

	Tons.	Dollars.
1871	.....	64,465
1881	.....	24,915
1891	9,243	86,809
1901	2,520	15,606
1913	3,910	26,228
1914	4,292	30,225
1915	3,943	30,333
1916	6,494	36,322
1917	12,321	107,999
1918	11,828	79,335
1919	7,416	106,131
1920	7,536	110,353
1921	11,954	151,752

Plasters, Healing, or Curative, and Court Plaster.

		Dollars.
1901	.....	6,911
1913	.....	4,639
1914	.....	10,929
1915	.....	7,171
1916	.....	8,094
1917	.....	7,571
1918	.....	5,531
1919	.....	7,278
1920	.....	9,244
1921	.....	12,595

Platinum Vases, Retorts and Other Apparatus for Chemical Uses.

	Ounces, Troy	Dollars.
1891	.....	26,228
1901	.....	24,252
1913	.....	93,962
1914	.....	82,000
1915	.....	33,478
1916	.....	50,845
1917	.....	17,521
1918	.....	2,530
1919	12	1,314
1920	458	47,252
1921	384	38,773

Plumbago or Graphite.

	Tons.	Dollars.
1871	2,904	136,200
1881	8,489	381,966
1891	10,126	509,719
1901	13,110	930,002
1913	25,233	1,972,177
1914	24,866	1,846,074
1915	17,057	1,387,873
1916	30,988	4,298,530
1917	42,270	9,678,160
1918	25,440	6,018,662
1919	18,670	2,222,519
1920	20,924	2,346,302
1921	14,797	1,160,054

Polishing and Cleaning Creams, Except Blanco Polish

		Dollars.
1891	.....	42,971
1901	.....	.....
1914	.....	6,085
1915	.....	11,606
1916	.....	14,133
1917	.....	7,208
1918	.....	22,879
1919	.....	18,402
1920	.....	15,082
1921	.....	26,235

Potash, Bicarbonate of, Refined.

	Pounds.	Dollars.
1871	170,823	10,556
1881	798,585	39,214
1891	76,828	4,344
1901	73,770	5,054
1913	311,645	14,295
1914	478,853	22,767
1915	383,534	20,341
1916	2,062	614
1918	171,528	84,381
1919	87,946	25,119
1920	5,008	1,200
1917	10,053	5,271
1921	594,287	116,495

Potash, Bichromate and Chromate of.

	Pounds.	Dollars.
1871	2,170,478	223,529
1881	4,404,237	402,088
1891	1,234,085	95,261
1901	200,519	14,401
1913	27,671	2,601
1914	34,860	2,822
1915	40,227	3,317
1916	2,291	391
1917	2,404	982
1918	20	8
1919	.....	.....
1920	19,864	6,961
1921	331	89

Potash, Carbonate of, Crude.

	Pounds.	Dollars.
1901	18,888,612	627,601
1913	10,068,912	295,066
1914	9,046,802	240,451
1915	8,620,504	291,341
1916	444,241	27,689
1917	1,069,408	185,910
1918	9,183,741	2,928,288
1919	1,092,792	373,745
1920	15,916,283	301,541
1921	3,515,339	369,699

Potash, Carbonate of, Refined.

	Pounds.	Dollars.
1891	7,241,999	259,537
1901	3,448,349	112,783
1913	14,035,111	412,587
1914	10,421,005	368,958
1915	2,377,940	92,959
1916	174,587	38,604
1917	202,385	53,170
1918	445,282	124,019
1919	130,040	40,980
1920	1,318,531	144,407
1921	577,275	162,255

Potash, Caustic or Hydrate of, Unrefined.

	Pounds.	Dollars.
1901	3,840,777	180,277
1912	8,422,007	330,684
1913	8,994,449	348,501
1914	8,565,451	326,650

Included in "Potash, Hydrate of, etc.," after 1914.

Potash, Caustic or Hydrate of, Refined.

	Pounds.	Dollars.
1901	86,798	7,195
1912	77,184	8,097
1913	112,822	11,920
1914	18,751	1,977

Included in "Potash, Hydrate of., etc.," after 1914.

Potash, Chlorate of.

	Pounds.	Dollars.
1871	395,068	85,315
1881	1,086,781	150,444
1891	3,361,838	341,661
1901	1,103,379	67,383
1913	1,235,732	66,609
1914	40,319	3,408
1915	27,419	4,614
1916	.....	.....
1917	437,339	194,008
1918	1,029,980	610,702
1919	315,565	113,498
1920	998,385	87,205
1921	2,060,124	179,563

Potash, Crude, or Black Salts.

	Pounds.	Dollars.
1881	.....	1,227
1891	.....	.....
1901	.....	.....
1914	2,599,883	52,454
1915	4,076,783	83,502
1916	1,504,149	53,752
1917	2,819,235	263,111
1918	727,588	112,235
1919	268,441	12,814
1920	4,912,740	144,317
1921	10,681,304	309,030

Not stated prior to 1914.

Potash, Cyanide of.

	Pounds.	Dollars.
1901	2,029,993	475,833
1913	950,890	137,585
1914	1,236,799	183,259
1915	747,627	143,331
1916	43,705	9,311
1917	70,147	40,513
1918	13,455	3,150
1919	444,581	32,161
1920	5,175,606	430,873
1921	13,353,271	977,664

Potash, Hydrate of, Containing Not More Than 15 Per Cent. of Caustic Soda.

	Pounds.	Dollars.
1891	1,891,607	85,535
1901	.....	.....
1915	4,993,471	225,002
1916	39,770	9,222
1917	74,780	33,648
1918	11,732	4,598
1919	466,620	124,563
1920	782,477	220,163
1921	4,934,697	474,479

See "Potash, Caustic, Etc."

Potash, Muriate of.

	Tons.	Dollars.
1871	.....	61,270
1881	11,401	335,799
1891	37,927	1,182,007
1901	69,281	2,083,641
1913	223,887	6,737,757
1914	234,856	7,925,781
1915	102,882	3,660,358
1916	2,126	460,888
1917	606	174,906
1918	596	166,979
1919	1,677	201,307
1920	110,324	11,038,173
1921	49,911	5,290,196

Potash, Nitrate of, Crude.

(See Saltpeter, Crude.)

Potash, Nitrate of, Refined.

	Tons.	Dollars.
1871	67	7,820
1881	162	19,535
1891	79	6,194
1901	216	18,433
1913	197	22,142
1914	166	20,173
1915	34	4,222
1916	2	749
1917	288	35,143
1918	43	16,193
1919	1	96
1920	103	20,658
1921	14,444	107,649

Potash, Permanganate of.

	Pounds.	Dollars.
1871	2,735,769	112,521
1881	.....	.....
1891	.....	.....
1901	.....	.....
1913	357,366	25,314
1914	1,351,855	91,065
1915	1,039,304	78,924
1916	214,291	57,306
1917	6,946	11,727
1918	43,826	106,104
1919	18,107	43,830
1920	9,446	5,100
1921	104,041	47,984

Potash, Prussiate of, Red.

	Pounds.	Dollars.
1871	17,480	7,222
1881	106,424	49,685
1891	35,826	19,630
1901	30,262	7,357
1913	65,316	11,302
1914	89,976	15,325
1915	83,574	14,922
1916	2,560	3,520
1917	4,523	10,425
1918	9,824	18,496
1919	13,992	25,497
1920	87,506	52,483
1921	66,004	30,232

Potash, Prussiate of, Yellow.

	Pounds.	Dollars.
1871	255,325	58,009
1881	544,167	108,954
1891	2,223,154	368,366
1901	1,669,358	218,908
1913	2,812,408	309,302
1914	3,508,228	390,921
1915	2,316,736	255,711
1916	44,156	31,651
1917	41,128	32,251
1918	134,638	111,096
1919	58,003	45,869
1920	1,141,224	188,797
1921	398,961	99,211

Potash, Sulphate of.

	Tons.	Dollars.
1891	1,362	49,619
1901	15,632	558,136
1913	48,023	1,798,369
1914	44,986	1,887,491
1915	21,705	1,071,623
1916	2,427	197,808
1917	656	20,538
1918	136	19,837
1919	137	23,304
1920	6,356	1,073,322
1921	12,081	1,660,798

Potassium, Iodide.

	Pounds.	Dollars.
1871	17,842	49,503
1881	480	1,267
1891	1,024	935
1901	663	1,328
1913	120	239
1914	270	491
1915	4	13
1916	309	1,032
1917	24,357	58,752
1918	65,992	133,611
1919	25,963	74,834
1920	11,377	34,766
1921	890	2,435

Potassium, Metal

	Pounds.	Dollars.
1921	15,227	581

Not stated prior to 1921.

Press Cloth for Oil Milling Purposes

	Pounds.	Dollars.
1920	8,502	9,225
1921	11,582	13,643

Not stated prior to 1920.

Pyrethrum or Insecticide Flowers.

	Pounds.	Dollars.
1918	2,298,476	422,751
1919	3,399,026	667,374
1920	6,827,700	2,672,576
1921	3,958,657	1,749,213

Not stated prior to 1918.

Pyridine and Quinoline.

	Pounds.	Dollars.
1918	11,981	1,051
1919	123,049	15,248
1920	493,383	56,604
1921	434,668	121,437

Not stated prior to 1918.

Putty (Whiting and Paris White), Ground in Oil.

	Pounds.	Dollars.
1871	5,534	118
1881	287	28
1891	122	14
1901	15,362	378
1913	36,434	881
1914	37,020	911
1915	18,078	343
1916	16,082	386
1917	33,286	1,472
1918	36,398	3,781
1919	4,735	811
1920	96,572	4,717
1921	393,136	12,420

Quebracho Extract.

	Pounds.	Dollars.
1913	63,604,814	1,672,314
1914	99,605,839	2,699,104
1915	125,565,857	3,676,749
1916	81,501,892	5,432,458
1917	61,977,849	5,382,433
1918	101,523,282	4,917,212
1919	137,151,143	5,856,803
1920	154,944,717	8,123,641
1921	110,184,308	6,602,449

Quebracho Wood.

	Tons.	Dollars.
1913	101,869	1,300,126
1914	73,957	900,880
1915	54,715	750,873
1916	106,864	1,598,465
1917	95,211	1,086,946
1918	53,871	848,671
1919	2,689	31,048
1920	33,672	480,503
1921	32,901	531,566

Quicksilver.

	Pounds.	Dollars.
1871	239,223	107,646
1881	138,517	57,733
1891	457,056	254,837
1901	1,666	899
1913	380	387
1914	444,673	192,609
1915	561,924	292,244
1916	554,852	595,057
1917	242,526	239,401
1918	580,460	641,316
1919	319,074	338,595
1920	1,227,582	1,184,374
1921	728,105	616,517

Quinia, Sulphate of.

	Ounces.	Dollars.
1871	10,861	12,261
1881	408,851	1,052,228
1891	3,079,000	805,729
1901	3,495,996	1,078,472
1913	2,279,734	397,409
1914	2,224,765	486,641
1915	1,508,931	378,511
1916	1,409,228	1,022,821
1917	623,947	324,438
1918	1,256,172	593,019
1919	2,101,006	1,238,125
1920	2,888,550	1,376,514
1921	1,935,531	1,489,166

Radium, and Salts of, and Radioactive Substances.

	Grains.	Dollars.
1914	.....	29,983
1915	.....	29,983
1916	.....	3,712
1917	.....	50
1918	.....	.....
1919	11	892
1920	12	11,033
1921	807	3,027

Not stated prior to 1914; quantity not stated prior to 1919.

Red Lead.

	Pounds.	Dollars.
1871	1,295,616	78,411
1881	212,423	10,009
1891	519,613	20,950
1901	524,935	23,933
1913	145,478	7,223
*1914	69,867	5,074
1915	6,697	342
1916	196	43
1917	20,471	5,296
1918	5	1
1919	7,184	1,134
1920	345	73
1921	22,772	1,720

* 29,940 pounds, $3,681, came in free of duty for construction and equipment of vessels.

Rennets, Raw or Prepared.

	Pounds.	Dollars.
1871	.....	254
1881	.....	34,261
1891	.....	90,042
1901	.....	90,812
1913	.....	129,588
1914	.....	129,720
1915	.....	106,614
1916	.....	86,694
1917	.....	13,154
1918	.....	62,173
1919	40,905	97,964
1920	185,652	159,039
1921	122,968	72,092

Resorcin

	Pounds.	Dollars.
1920	5,159	2,642
1921	156,028	112,312

Not stated prior to 1920.

Quantity not stated prior to 1919.

Rhubarb Root.

	Pounds.	Dollars.
1881	163,519	42,497
1891	90,592	18,403
1901	216,803	20,766
1913	121,701	16,554
1914	181,240	22,354
1915	233,699	24,592
1916	155,924	17,701
1917	238,601	32,084
1918	190,962	20,879
1919	119,245	46,968
1920	283,138	234,757
1921	109,626	64,997

Rochelle Salts. See "Tartrate of Soda"

Rose Leaves.

	Pounds.	Dollars.
1891	.....	6,966
1901	.....	1,678
1913	.....	67
1914	.....	1,434
1915	.....	484
1916	.....	1,060
1917	.....	4,199
1918	.....	4,164
1919	1,399	557
1920	27,627	10,566
1921	9,536	4,153

Quantity not stated prior to 1919.

Rosin, Violin.

		Dollars.
1871	.....	460
1881	.....	4,636
1891	.....	136
1901	.....	3,470
1913	.....	30,621
1914	.....	11,625
1915	.....	6,532
1916	.....	4,893
1917	.....	2,872
1918	.....	3,746
1919	.....	2,292
1920	.....	6,506
1921	.....	7,300

Saccharin.

	Pounds.	Dollars.
1901	29,334	35,734
1913	47	64
1914	8	30
1915	5,617	6,737
1916	12,954	76,789
1917	1,596	18,276
1918	1	48
1919	.....	.....
1920	.....	.....
1921	40	39

Saffron, Safflower, and Extract of, and Saffron Cake, Not Containing Alcohol.

	Pounds.	Dollars.
1871	.....	294
1881	.....	54,326
1891	.....	44,599
1901	.....	42,502
1913	.....	93,146
1914	.....	85,678
1915	.....	70,132
1916	.....	111,420
1917	.....	124,235
1918	.....	54,109
1919	16,459	77,273
1920	25,704	138,732
1921	22,960	67,454

Quantity not stated prior to 1919.

Sage, Unground.

	Pounds.	Dollars.
1913	1,299,120	19,803
1914	2,005,469	39,309
1915	822,083	48,454
1916	1,865,815	130,464
1917	1,528,828	92,409
1918	1,364,295	150,004
1919	977,440	143,257
1920	1,418,414	159,878
1921	2,270,304	174,773

Sago, Crude, and Sago Flour.

	Pounds.	Dollars.
1871	1,719,256	45,601
1881	1,247,219	38,845
1891	3,970,504	101,303
1901	51,991	1,588
1913	12,389,192	230,992
1914	9,970,717	166,924
1915	6,630,400	106,090
1916	10,999,587	234,073
1917	7,893,055	204,864
1918	22,179,761	654,261
1919	3,092,967	104,915
1920	6,115,486	332,327
1921	2,591,377	86,583

Salep or Salop.

		Dollars.
1913	.....	44
1914	.....	75
1915	.....	2,762
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	37	29

Salicin.

	Pounds.	Dollars.
1881	.....	6,410
1891	4,987	6,428
1901	4,506	14,935
1913	3,274	12,146
1914	4,129	14,982
1915	1,800	6,560
1916	453	2,135
1917	390	2,307
1918	319	2,845
1919	560	5,791
1920	1,374	16,379
1921	1,843	19,771

Salol.

	Pounds.	Dollars.
1914	660	219
1915	23,430	11,445
1916	4,069	2,182
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Not stated prior to 1914.

Salt.

	100 pounds.	Dollars.
1912	2,901,815	379,540
1913	2,508,561	356,911
1914	3,397,496	456,426

Stated separately after 1914; see following classes.

Salt in Bags, Barrels or Other Packages.

	100 pounds.	Dollars.
1871	2,839,938	800,454
1881	4,124,422	1,242,543
1891	1,736,861	584,845
1901	1,114,571	372,482
1915	620,462	213,676
1916	552,616	195,791
1917	375,658	176,784
1918	268,426	158,832
1919	117,690	107,941
1920	1,463,794	280,684
1921	643,076	264,852

Salt in Bulk.

	100 pounds.	Dollars.
1871	2,747,351	355,318
1881	5,293,610	658,068
1891	2,504,581	258,270
1901	1,920,837	187,681
1915	1,959,638	172,888
1916	1,591,032	134,975
1917	1,808,867	158,096
1918	755,044	145,640
1919	577,416	99,988
1920	292,446	174,364
1921	1,843,017	365,190

Salt Cake

	Tons.	Dollars.
1871	.....	2,436
1881	698	8,187
1891	8,457	85,368
1901	3,412	34,045
1913	189	4,771
1914	206	2,436
1915	189	3,566
1916	91	6,392
1917	216	4,122
1918	403	8,382
1919	28	168
1920	.....	.....
1921	152	2,855

Saltpeter, Crude.

	Pounds.	Dollars.
1871	5,072,381	208,423
1881	11,014,226	414,630
1891	16,090,486	494,121
1901	41,343,897	473,578
1913	10,989,382	288,995
1914	3,547,252	115,470
1915	677,785	22,483
1916	5,412,130	734,123
1917	10,171,654	904,506
1918	8,715,327	956,853
1919	34,557,048	1,208,391
1920	20,862,012	929,045
1921	30,868,786	1,407,044

Santonin, and Its Combination with Acids.

	Pounds.	Dollars.
1871	983	6,035
1881	483	2,317
1891	5	7
1901	6,584	11,984
1913	1,982	44,358
1914	5,230	123,128
1915	912	25,558
1916	20,925	586,850
1917	111	3,966
1918	223	7,502
1919	1,125	40,688
1920	2,778	162,335
1921	2,613	236,864

Saponin.

		Dollars.
1914	.....	6,643
1915	.....	5,967
1916	.....	413
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	2,480

Not stated prior to 1914.

Sarsaparilla Root.

	Pounds.	Dollars.
1871	242,314	46,067
1881	270,820	63,641
1891	631,985	90,694
1901	675,928	55,790
1913	301,308	38,360
1914	224,970	36,284
1915	250,178	36,055
1916	291,276	41,489
1917	146,047	18,994
1918	110,709	31,454
1919	221,946	58,126
1920	289,175	90,291
1921	128,043	38,346

Seed, Anise

	Pounds.	Dollars.
1871	93,847	8,625
1881	367,186	29,386
1891	300,880	19,348
1901	391,659	20,356
1913	1,250,831	84,941
1914	231,117	15,412
1915	432,863	30,982
1916	789,487	68,713
1917	475,100	67,221
1918	364,406	61,330
1919	261,837	34,610
1920	658,425	115,358
1921	292,620	39,640

Seed, Canary

	Pounds.	Dollars.
1871	2,226,580	56,952
1881	3,037,620	86,838
1891	7,711,060	122,671
1901	3,731,800	67,791
1913	6,219,623	184,596
1914	4,503,280	190,530
1915	4,911,208	208,835
1916	5,368,551	181,808
1917	4,909,107	166,774
1918	3,242,223	201,469
1919	3,953,049	406,883
1920	7,084,523	538,554
1921	5,596,315	255,175

Seed, Caraway

	Pounds.	Dollars.
1871	.....	113,387
*1881	1,801,860	49,542
1891	1,606,501	53,808
1901	1,281,382	77,273
1913	3,691,831	234,294
1914	1,909,300	107,599
1915	2,895,418	172,742
1916	2,978,581	280,146
1917	505,804	71,745
1918	635,677	247,499
1919	579,599	204,493
1920	2,475,082	315,846
1921	2,443,550	154,389

* Includes "Coriander."

Seed, Castor, Beans or Seeds, see "Castor Beans."

Seed, Cardamom

	Pounds.	Dollars.
1871	5,557	13,932
1881	42,456	66,079
1891	41,309	21,945
1901	60,252	32,305
1913	113,461	104,287
1914	80,782	72,148
1915	152,679	106,180
1916	225,687	119,162
1917	214,464	88,605
1918	253,328	108,505
1919	139,808	70,114
1920	210,871	107,507
1921	190,312	101,581

Seed, Coriander

	Pounds.	Dollars.
1871	45,189	2,574
*1881	.....	.....
1891	.....	.....
1901	655,382	17,092
1913	1,324,735	35,817
1914	1,238,430	46,158
1915	1,496,288	36,851
1916	1,587,923	54,870
1917	1,111,127	124,098
1918	1,829,183	255,279
1919	2,325,578	215,858
1920	2,179,989	94,996
1921	472,239	13,643

* Included in "Caraway."

Seed, Cotton

	Pounds.	Dollars.
1901	1,979,718	7,200
1914	8,891,303	66,035
1915	22,724,868	114,983
1916	30,113,684	251,568
1917	53,362,927	932,335
1918	35,435,460	1,047,657
1919	62,965,821	1,308,493
1920	59,906,675	1,687,974
1921	89,458,235	649,138

Seed, Cummin

	Pounds.	Dollars.
1871	1,065	180
*1881	.....	.....
*1891	496,723	12,087
*1901	1,099,261	22,744
1913	529,667	27,178
1914	530,550	31,709
1915	694,344	83,534
1916	1,446,006	225,672
1917	1,159,598	207,012
1918	1,520,691	198,855
1919	971,982	117,217
1920	1,836,564	167,292
1921	788,493	49,812

* Includes "Fenugreek."

Seed, Fennel

	Pounds.	Dollars.
1871	6,643	562
1881	150,062	9,313
1891	.....	.....
1901	107,523	6,918
1913	187,665	14,410
1914	207,135	12,299
1915	293,810	13,622
1916	312,927	20,751
1917	443,704	48,497
1918	218,091	24,133
1919	160,584	20,412
1920	282,522	34,965
1921	143,594	17,468

Seed, Fenugreek

	Pounds.	Dollars.
1871	16,457	571
1913	1,944,407	37,434
1914	1,619,230	20,601
1915	1,434,826	30,295
1916	811,270	20,672
1917	1,052,843	71,102
1918	851,532	80,504
1919	1,673,229	131,996
1920	1,043,036	44,168
1921	746,386	17,995

Seed, Flaxseed or Linseed

	Bushels.	Dollars.
1871	4,113,586	5,977,926
1881	4,787,460	1,126,370
1891	1,479,239	1,629,901
1901	1,533,997	1,965,913
1913	5,274,922	8,118,319
1914	8,652,022	10,571,656
1915	10,373,902	12,983,548
1916	14,637,543	20,151,633
1917	12 484,859	25,295,231
1918	12 785,034	33,830,735
1919	8,433,426	22,643,803
1920	23,367,328	76,741,019
1921	16,168,523	39,132,988

Seed, Hemp

	Pounds.	Dollars.
1871	857,396	28,224
1881	1,324,355	26,403
1891	3,558,146	73,409
1901	1,769,375	36,336
1913	2,347,979	44,483
1914	2,031,438	38,315
1915	2,591,026	39,992
1916	4,036,614	63,163
1917	5,355,921	110,176
1918	449,772	12,232
1919	760,353	26,395
1920	5,194,599	264,652
1921	3,763,970	82,245

Seed, Millet, Prepared

	Pounds.	Dollars.
1901	.....	3,814
1913	.....	16,977
1914	.....	26,680
1915	.....	1,790
1916	.....	249
1917	.....	.....
1918	.....	391
1919	3,075	190
1920	9,080	794
1921	5,376	323

Quantity not stated prior to 1919.

Seed, Mustard

	Pounds.	Dollars.
1871	1,608,270	103,192
1881	1,157,832	63,240
1891	2,871,660	92,052
1901	4,489,206	159,993
1913	12,719,682	417,370
1914	11,543,941	370,964
1915	10,157,934	543,586
1916	16,402,112	1,070,567
1917	9,962,122	770,546
1918	13,035,827	683,096
1919	11,272,770	842,033
1920	14,817,829	1,510,783
1921	4,618,253	253,903

Seed, Oilseed, Not Elsewhere Specified

	Bushels.	Dollars.
1901	174,635	237,856
1913	13,519	33,289
1914	79,097	104,072
1915	13,547	28,752
1916	18,958	39,359
1917	30,939	76,948
1918	309,687	755,746
1919	13,856	46,038
1920	40,863	169,900
1921	133,451	477,977

Seed, Pepper

	Pounds.	Dollars.
1913	10,414	4,579
1914	11,536	4,879
1915	15,324	6,379
1916	14,900	6,202
1917	4,962	2,846
1918	21,884	15,964
1919	7,022	11,042
1920	1,997	2,159
1921	5,376	4,301

Seed, Poppy

	Bushels.	Dollars.
1891	5,323	13,108
1901	22,686	37,440
1913	77,396	237,069
1914	56,322	126,744
1915	52,899	172,018
1916	26,648	176,776
1917	3,878	25,565
1918	130,024	215,840
1919	11,320	29,206
1920	33,745	363,369
1921	86,096	476,246

Seed, Rape

	Pounds.	Dollars.
1871	145,323	6,450
1881	531,412	19,986
1891	891,441	19,681
1901	1,702,504	71,527
1913	4,308,750	169,634
1914	5,970,937	211,301
1915	5,194,132	230,280
1916	9,977,353	311,212
1917	4,819,360	186,877
1918	12,673,276	741,810
1919	742,780	43,935
1920	6,905,051	456,402
1921	4,934,014	277,547

Seed, Soya Bean

	Pounds.	Dollars.
1914	1,929,435	49,507
1915	3,837,865	87,306
1916	3,003,065	78,963
1917	5,334,334	132,572
1918	31,805,997	692,964
1919	3,203,203	145,996
1920	4,022,552	213,696
1921	4,661,458	190,674

Not stated prior to 1914.

Selenium and Salts of

	Pounds.	Dollars.
1914	.....	363
1915	.....	43
1916	.....	16
1917	.....	302
1918	.....	2,236
1919	.....	.....
1920	114	25,866
1921	1,104	2,092

Not stated prior to 1914. Quantity not stated prior to 1920.

Senna Leaves

	Pounds.	Dollars.
1891	.....	51,876
1901	.....	91,884
1913	2,634,117	150,555
1914	2,454,772	173,054
1915	2,180,288	209,313
1916	2,794,400	361,881
1917	5,116,315	844,733
1918	3,575,066	771,067
1919	2,554,069	628,852
1920	3,425,200	572,419
1921	2,780,666	349,839

Sheep Dip

	Pounds.	Dollars.
1891	.....	893
1901	.....	59,016
1913	.....	63,527
1914	.....	16,842
1915	.....	32,963
1916	.....	21,198
1917	.....	17,185
1918	.....	26,989
1919	88,335	6,958
1920	172,562	13,880
1921	53,450	5,240

Quantity not stated prior to 1919.

Sienna and Sienna Earths

	Pounds.	Dollars.
1891	1,147,282	24,070
1901	795,996	14,624
1914	6,489,329	55,925
1915	6,656,031	64,658
1916	5,206,292	83,428
1917	2,990,972	61,163
1918	2,731,181	61,301
1919	2,060,857	48,237
1920	2,555,705	76,715
1921	5,111,832	150,857

Silver Leaf

	100 leaves.	Dollars.
1871	1,160	5,500
1881	250	919
1891	1	15
1901	30	85
1913	17,130	2,122
1914	34,070	4,353
1915	31,298	3,718
1916	6,445	802
1917	1,125	135
1918	1,750	382
1919	.....	.....
1920	3,955	1,334
1921	8,650	3,446

Slag, Basic, Ground or Unground, for Fertilizers

	Tons.	Dollars.
1913	5,124	146,477
1914	9,509	108,565
1915	561	7,309
1916	81	1,031
1917	41	549
1918	2	54
1919	117	2,305
1920	22	689
1921	.....	.....

Soap, Castile

	Pounds.	Dollars.
1901	3,842,827	245,876
1914	4,604,995	368,310
1915	4,067,921	341,107
1916	3,245,550	335,580
1917	2,390,356	306,126
1918	1,027,148	147,286
1919	955,088	143,906
1920	2,170,294	380,981
1921	2,039,498	310,015

Soap, Medicinal

	Pounds.	Dollars.
1914	74,132	29,306
1915	32,048	14,082
1916	16,455	3,523
1917	4,257	1,975
1918	16,844	7,412
1919	9,745	8,853
1920	10,217	4,568
1921	20,338	16,193

Soap, Powder

	Pounds.	Dollars.
1914	.....	211
1915	.....	3,362
1916	.....	19,568
1917	.....	7,800
1918	.....	12,744
1919	271,672	11,812
1920	27,107	2,557
1921	222,704	14,961

Not stated prior to 1914.
Quantity not stated prior to 1919.

Soap, Toilet, Perfumed

	Pounds.	Dollars.
1871	.....	76,499
1881	.....	77,312
1891	.....	281,255
1901	.....	413,819
1914	.....	248,194
1915	.....	193,646
1916	.....	147,819
1917	.....	184,613
1918	.....	125,275
1919	137,301	113,996
1920	242,632	153,638
1921	363,906	227,624

Quantity not stated prior to 1919.

Soap, Toilet, Unperfumed

	Pounds.	Dollars.
1871	.....	223,061
1881	.....	175,439
1891	.....	251,955
1914	.....	100,650
1915	.....	140,048
1916	.....	82,057
1917	.....	64,570
1918	.....	13,635
1919	39,151	12,110
1920	67,944	17,600
1921	85,635	18,001

Quantity not stated prior to 1919.

Soap, All Other, Not Specially Provided For

	Pounds.	Dollars.
1891	.....	45,560
1901	.....	14,478
1914	.....	84,745
1915	.....	53,940
1916	.....	18,245
1917	.....	21,406
1918	.....	31,639
1919	151,526	15,038
1920	198 233	22,189
1921	341,480	36,479

Quantity not stated prior to 1919.

Soda, Ash

	Pounds.	Dollars.
1871	145,428,215	2,387,583
1881	295,227,766	4,154,258
1891	326,099,239	4,122,700
1901	34,443,555	306,982
1913	3,100,790	35,461
1914	2,228,991	28,100
1915	2,127,542	29,022
1916	878,175	20,718
1917	1,047,295	29,239
1918	1,514,765	55,231
1919	.....	.....
1920	1,926,332	39,437
1921	6,630,873	93,802

Soda, Arsenate of

	Pounds.	Dollars.
1901	74,614	2,122
1914	228,270	8 267
1915	85,850	3,188
1916	36,176	3,436
1917	23,296	2,404
1918	35	88
1919	.....	.....
1920	11,448	1,118
1921	131,915	11,946

Soda, Benzoate of

	Pounds.	Dollars.
1914	190	97
1915	40,903	19,183
1916	35,188	100,195
1917	80,755	339,868
1918	1,369	4,742
1919	55,188	11,459
1920	67,397	10,478
1921	1,032	11,122

Not stated prior to 1914.

Soda, Bicarbonate of

	Pounds.	Dollars.
1871	18,998,399	421,177
1881	1,951,851	58,312
1891	758,612	15,611
1901	144,182	5,006
1913	80,699	2,238
1914	88,873	2,324
1915	93,318	2,584
1916	129,414	2,867
1917	34,742	1,821
1918	29,444	944
1919	12,665	711
1920	13,353	3,514
1921	5,960	417

Soda, Bichromate and Chromate of

	Pounds.	Dollars.
1901	54,105	2,781
1913	9	3
1914	11,056	585
1915	.....	.....
1916	6,154	3,630
1917	.....	.....
1918	27,127	5,259
1919	.....	.....
1920	.....	.....
1921	.....	.....

Soda, Borate of, or Borax, Refined

	Pounds.	Dollars.
1871	134,927	20,705
1881	4,136	866
1891	10,725	1,062
1901	.....	.....
1914	4,522	641
1915	2,265	314
1916	682	112
1917	614	109
1918	2	1
1919	478	166
1920	30,334	2,423
1921	226,469	12,505

Soda, Chlorate of

	Pounds.	Dollars.
1891	385,972	51,502
1901	795,659	44,173
1913	50	10
1914	469	84
1915	62	6
1916	22,176	3,105
1917	33,600	1,080
1918	44,800	8,064
1919	10	2
1920	424,280	38,978
1921	365,611	26,397

Soda, Crystal Carbonate of

	Pounds.	Dollars.
1871	28,637,489	281,892
1881	.....	.....
1891	.....	.....
1901	611,961	5,663
1913	169,174	2,928
1914	307,488	3,323
1915	144,452	2,748
1916	49,231	889
1917	60,464	1,299
1918	70,116	2,028
1919	.....	.....
1920	203	16
1921	74,271	2,266

Soda, Cyanide of

	Pounds.	Dollars.
1914	7,856,611	1,120,789
1915	6,187,418	955,907
1916	684,108	115,180
1917	1,875,824	861,777
1918	84,652	39,405
1919	138,970	13,406
1920	8,629,502	729,514
1921	7,733,063	1,074,434

Not stated prior to 1914.

Soda, Hydrate of, or Caustic

	Pounds.	Dollars.
1871	27,952,469	877,710
1881	49,465,385	1,168,277
1891	76,788,411	1,821,127
1901	3,749,633	75,954
1913	671,480	25,364
1914	665,320	23,914
1915	444,185	19,318
1916	225,189	20,981
1917	109,983	21,052
1918	15,976	9,591
1919	2	2
1920	117,322	14,842
1921	67,950	7,766

Soda, Hyposulphite of

	Pounds.	Dollars.
1901	5,222,369	50,639
1913	7,299	228
1914	926,135	128,828
1915	1,855,223	268,693
1916	5,125	166
1917	1,836	1,193
1918	6,960	6,723
1919	27,616	6,112
1920	11,014	7,904
1921	6,160	4,085

Soda, Nitrate of

	Tons.	Dollars.
1871	25,145	1,254,961
1881	49,171	2,356,167
1891	104,813	2,929,760
1901	197,518	5,656,442
1913	586,315	20,713,375
1914	554,048	17,926,165
1915	575,371	16,240,510
1916	1,072,833	32,129,926
1917	1,261,993	44,428,196
1918	1,608,569	70,077,674
1919	1,410,714	68,229,548
1920	907,141	40,314,969
1921	853,756	42,322,979

Soda, Nitrite of

	Pounds.	Dollars.
1901	90,125	4,642
1913	1,269,544	57,595
1914	1,844,379	76,813
1915	1,696,567	74,263
1916	2,593,330	170,160
1917	3,675,179	261,555
1918	2,755,033	226,294
1919	1,746,976	159,355
1920	8,897,758	978,676
1921	6,721,107	791,611

Soda, Phosphate of

	Pounds.	Dollars.
1901	377,834	7,178
1913	30	14
1914	1,364,789	24,975
1915	485,300	7,765
1916	1,066	79
1917	1,561	521
1918	112	69
1919	.....	.....
1920	56	22
1921	238,416	8,113

Soda, Prussiate of, Yellow

	Pounds.	Dollars.
1913	1,887,369	118,475
1914	2,295,724	171,834
1915	1,529,958	120,477
1916	527,130	136,250
1917	175,980	96,592
1918	.....	.....
1919	274,441	99,899
1920	2,633,090	445,849
1921	1,610,036	282,966

Soda, Sal, or Soda Crystals

	Pounds.	Dollars.
1871	28,637,489	281,892
1881	15,695,044	119,793
1891	28,548,379	252,051
1901	5,169,275	22,779
1913	128,027	1,010
1914	163,626	1,274
1915	104,800	606
1916	67,210	334
1917	50	4
1918	75	3
1919	44,800	1,156
1920	5,056	603
1921	45,360	1,390

Soda, Silicate of

	Pounds.	Dollars.
1871	384,882	7,325
1881	557,251	8,367
1891	535,030	6,429
1901	1,229,857	10,461
1913	1,032,113	9,400
1914	1,046,569	10,881
1915	1,587,902	16,292
1916	1,567,617	18,694
1917	1,203,844	18,493
1918	707,583	12,734
1919	673,777	16,647
1920	754,923	19,479
1921	1,069,468	32,033

Soda, Sulphate. See "Salt Cake"

	Pounds.	Dollars.
1913	951,664	13,068
1914	2,529,911	36,383
1915	1,263,366	18,228
1916	80,513	4,616
1917	344,617	7,214
1918	117,532	1,707
1919	314,887	10,494
1920	2,008,495	64,678
1921	741,965	40,440

Soda, Sulphite of

	Pounds.	Dollars.
1913	27,152	400
1914	382,540	5,627
1915	165,594	4,316
1916	435	60
1917	68,224	1,221
1918	20,206	223
1919	11,400	1,007
1920	68,239	3,119
1921	206,423	8,369

Sodium, Metal

	Pounds.	Dollars.
1920	5,600	684
1921	.....	.....

Not stated prior to 1920.

Sponges

	Dollars.
1871	113,127
1881	229,292
1891	381,879
1901	540,223
1912	311,547
1913	289,909

Stated separately after 1913.

Sponges, Not Advanced by Chemical Process

	Dollars.
1914	279,211
1915	334,252
1916	454,626
1917	593,253
1918	510,374
1919	475,817
1920	607,440
1921	459,231

Sponges, Bleached and Advanced by Chemical Process

	Dollars.
1914	38,300
1915	42,042
1916	58,797
1917	55,077
1918	27,682
1919	8,053
1920	24,212
1921	37,219

Sponges, Made of Rubber

	Pounds.	Dollars.
1921	.....	378

Not stated prior to 1921.

Starch, Potato

	Pounds.	Dollars.
1871	7,571	658
1881	35,896	2,124
1891	.....	.....
1901	.....	.....
1913	14,180,856	375,713
1914	13,934,741	233,661
1915	10,941,257	253,859
1916	2,237,717	72,736
1917	17,545,689	797,327
1918	13,195,079	902,499
1919	11,913,821	974,892
1920	9,017,574	547,672
1921	10,801,488	466,652

Starch, Soluble or Chemically Treated

	Pounds.	Dollars.
1913	321,071	13,345
1914	1,697,392	54,604
1915	569,297	21,559
1916	7,420	417
1917	44,788	3,244
1918	.....	.....
1919	1,223	143
1920	.....	.....
1921	143,153	10,492

Starch, All Other

	Pounds.	Dollars.
1871	25,078	1,896
1881	1,108,319	33,354
1891	3,743,219	86,694
1901	6,753,103	144,861
1913	677,785	40,645
1914	962,314	52,160
1915	952,934	52,537
1916	1,242,918	78,833
1917	888,345	62,132
1918	590,469	67,355
1919	224,938	35,537
1920	1,024,662	109,003
1921	474,700	54,871

Straws, Drinking

	Dollars.
1914	4,587
1915	3,585
1916	4,797
1917	4,044
1918	3,269
1919	2,130
1920	85
1921	6,286

Not stated prior to 1914.

Strontia, Oxide of

	Pounds.	Dollars.
1891	.....	63
1901	.....	1,755
1913	.....	474
1914	.....	1,969
1915	.....	7,268
1916	.....	8,311
1917	.....	21,184
1918	.....	6,873
1919	316,640	1,358
1920	1,050,347	6,230
1921	2,816,726	16,020

Quantity not stated prior to 1919.

Strychnia or Strychnine, and Its Combination With Acids Not Subject to Duty

	Ounces.	Dollars.
1871	5	12
1881	99	122
1891	230	175
1901	4,731	1,932
1913	966,575	4,112,057
1914	846,905	3,753,879
1915	26,967	11,449
1916	59,278	37,652
1917	33,323	25,617
1918	9,688	9,726
1919	186	362
1920	18,448	32,901
1921	29,029	45,851

Sulphur Ore, as Pyrites or Sulphuret of Iron, Containing Not in Excess of 25 Per Cent. Sulphur

	Tons.	Dollars.
1891	19,605	77,694
1901	352,644	1,184,899
1913	532	377
1914	17,419	5,403
1915	26,967	11,449
1916	1,370,059	7,121,614
1917	935,749	5,855,913
1918	807,084	4,526,563
1919	370,272	2,018,447
1920	425,545	2,190,012
1921	263,633	1,299,238

Sulphur or Brimstone, Crude

	Tons.	Dollars.
1871	40,699	1,212,448
1881	113,190	2,713,485
1891	119,891	2,465,732
1901	159,710	2,875,115
1913	19,258	374,024
1914	20,236	346,875
1915	25,842	442,975
1916	22,539	372,599
1917	11,819	205,980
1918	282	8,677
1919	75	1,822
1920	51	1,896
1921	3	124

Sulphur Lac or Precipitated

	Pounds.	Dollars.
1881	.....	775
1891	35,535	2,395
1901	61,357	3,612
1913	715,876	13,723
1914	233,896	13,636
1915	208,568	13,187
1916	217,997	16,628
1917	69,145	7,009
1918	84,224	10,797
1919	39,548	5,897
1920	99,001	16,025
1921	49,306	13,259

Sulphur, Refined

	Tons.	Dollars.
1871	104	4,328
1881	80	2,555
1891	307	6,579
1901	154	4,115
1913	1,742	41,626
1914	1,523	39,634
1915	1,206	36,275
1916	850	26,778
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	50	2,512
1921	35	2,329

Sulphur, Sublimed, or Flowers of

	Tons.	Dollars.
1871	74	3,574
1881	110	4,226
1891	271	8,386
1901	740	20,392
1913	6,104	122,093
1914	599	15,841
1915	950	31,202
1916	200	7,512
1917	295	13,317
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Sumac, Extract

	Gallons.	Dollars.
1891	239,890	77,152
1901	161,317	52,105
1913	1,270,825	44,568
1914	1,463,297	59,022
1915	727,449	35,066
1916	36,003	4,108
1917	161,507	13,944
1918	23,706	2,616
1919	.....	.....
1920	.....	.....
1921	44,049	3,273

Sumac, Ground

	Pounds.	Dollars.
1891	11,412,307	235,729
1901	9,935,746	179,801
1913	14,112,112	289,255
1914	9,678,719	231,580
1915	12,048,917	294,434
1916	20,411,022	527,102
1917	10,877,008	337,404
1918	10,557,920	355,192
1919	4,128,309	145,286
1920	16,636,562	593,739
1921	2,245,615	62,786

Sumac, Unground

	Pounds.	Dollars.
1871	10,141,787	420,823
1881	13,667,892	409,400
1891	2,953,202	65,802
1901	1,482,822	26,138
1913	621,366	12,420
1914	1,333,566	32,238
1915	1,258,204	32,613
1916	1,131,369	28,164
1917	760,015	27,769
1918	3,619,439	141,063
1919	5,182,736	162,557
1920	4,543,852	161,497
1921	481,491	11,236

Talcum, Steatite and French Chalk, Crude

	Pounds.	Dollars.
1871	162,982	3,905
1881	.....	.....
1891	.....	.....
1901	.....	.....
1914	2,807,974	23,369
1915	3,478,711	15,322
1916	4,681,165	9,703
1917	3,736,899	11,477
1918	4,721,980	10,528
1919	2,804,000	10,324
1920	2,958,582	10,254
1921	844,150	3,026

Talcum, Ground, Etc.

	Pounds.	Dollars.
1871	.....	496
1881	.....	18,735
1891	.....	.....
1901	1,138,358	7,574
1913	23,690,095	122,623
1914	32,498,066	173,023
1915	30,434,850	187,871
1916	33,738,067	207,179
1917	34,288,429	238,479
1918	27,550,409	267,265
1919	23,090,219	207,534
1920	36,579,129	365,912
1921	30,653,746	318,058

Tallow.

	Pounds.	Dollars.
1871	69,244	4,606
1881	65,044	4,318
1891	77,557	3,278
1901	84,449	5,108
1913	490,505	41,710
1914	3,371,833	231,924
1915	12,634,594	823,958
1916	4,779,076	396,787
1917	31,136,527	3,108,274
1918	98,176,560	14,365,676
1919	10,808,742	1,408,007
1920	11,251,437	1,665,799
1921	11,762,499	1,338,362

Tanks, or Vessels, Cylindrical or Tubular, for Holding Gas, Liquids, or Other Material.

	Number.	Dollars.
1914	.....	459,842
1915	.....	226,911
1916	.....	242,773
1917	.....	234,217
1918	.....	153,716
1919	.....	151,640
1920	.....	385,300
1921	.....	441,371

Tanning Materials, Crude, Not Stated Elsewhere.

	Pounds.	Dollars.
1881	.....	560
1891	.....	2,603
1901	.....	46,739
1914	.....	31,595
1915	.....	64,995
1916	.....	270,292
1917	.....	365,596
1918	.....	95,446
1919	13,227,193	332,898
1920	49,008,222	1,092,589
1921	25,764,287	657,162

Quantity not stated prior to 1919.

Tapioca, Tapioca Flour, Cassava or Cassady.

	Pounds.	Dollars.
1871	.....	62,110
1881	4,857,434	187,983
1891	8,147,585	243,885
1901	17,411,046	430,002
1914	71,304,728	1,590,614
1915	60,080,060	1,324,184
1916	64,838,470	1,992,399
1917	100,517,107	3,506,479
1918	92,351,460	4,734,860
1919	53,379,896	2,613,121
1920	119,746,319	6,848,677
1921	56,975,926	2,757,298

Tar, Coal, Crude, and Pitch of.

	Barrels.	Dollars.
1891	89,351	236,450
1901	39,062	104,547
1913	14,093	23,691
1914	17,515	25,140
1915	16,391	23,874
1916	19,206	32,635
1917	5,594	10,702

Stated separately after Sept. 8, 1916.

Tar, Coal, Crude.

	Barrels.	Dollars.
1891	3,887	11,644
1901	.....	.....
1917	5,864	10,381
1918	10,031	15,603
1919	25,400	42,270
1920	14,439	28,882
1921	9,694	43,318

Tar, Coal, Pitch Of.

	Barrels.	Dollars.
1891	.....	15,499
1901	.....	.....
1917	7,258	8,146
1918	15,838	32,582
1919	3,293	7,093
1920	6,168	15,425
1921	6,271	20,060

Tar and Pitch of Wood.

	Barrels.	Dollars.
1871	.....	5,033
1881	.....	7,769
1891	4,319	13,411
1901	1,797	10,414
1914	561	7,946
1915	129	1,551
1916	31	282
1917	631	5,903
1918	51	214
1919	132	215
1920	287	1,860
1921	712	3,677

Tartrate of Soda, or Potassa, or Rochelle Salts.

	Pounds.	Dollars.
1871	100	27
1881	33	9
1891	547	100
1901	272	33
1914	186,305	23,419
1915	253,609	19,244
1916	187	47
1917	17,840	4,352
1918	31,160	8,614
1919	6,742	2,966
1920	69,440	17,580
1921	246,698	48,614

Tea, Impure, Waste, Siftings or Sweepings, for Manufacturing Purpose.

	Pounds.	Dollars.
1901	.....	25,802
1914	5,213,956	178,302
1915	4,739,208	153,360
1916	4,796,766	201,507
1917	7,626,688	478,326
1918	10,887,595	782,473
1919	4,860,200	371,975
1920	11,076,802	617,592
1921	12,522,860	738,594

Terpin Hydrate.

	Pounds.	Dollars.
1914	6,929	1,020
1915	4,477	657
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Not stated prior to 1914.

Terra Alba, All Kinds

	Pounds.	Dollars.
1871	.....	133,028
1881	.....	39,983
1891	20,762,212	50,128
1901	.....	.....
1921	.....	.....

Terra Alba, Not Made from Gypsum or Plaster Rock

	Pounds.	Dollars.
1920	85,200	674
1921	11,200	133

Not stated prior to 1920.

Thorium, Nitrate of.

	Pounds.	Dollars.
1901	12,986	41,663
1913	112,105	212,263
1914	144,413	309,260
1915	78,516	186,385
1916	22,261	63,496
1917	1,877	5,263
1918	.....	.....
1919	.....	.....
1920	15,409	17,593
1921	59,903	103,788

Thorium, Oxide and Other Salts of.

	Pounds.	Dollars.
1914	2,465	4,075
1915	32	359
1916	2,612	6,092
1917	1,616	3,984
1918	.....	.....
1919	28	124
1920	.....	.....
1921	.....	.....

Not stated prior to 1914.

Thymol.

	Pounds.	Dollars.
1914	19,045	24,765
1915	4,772	12,921
1916	443	1,973
1917	1,759	13,741
1918	34,978	113,279
1919	8,430	75,013
1920	8,948	56,764
1921	9,593	63,326

Not stated prior to 1914.

Tin, Black Oxide of, or Cassiterite.

	Pounds.	Dollars.
1871	.....	3,061
1881	.....	2,510
1891	224	7
1901	2,200	640
1913	82,983	18,536
1914	19,549	3,022
1915	49,068	10,798
1916	40,533	8,134
1917	54,367	12,816
1918	29,014	8,014
1919	.....	.....
1920	*14	6,924
1921	35	16,025

*Quantity stated in tons after 1919.

Tin Foil.

		Dollars.
1871	.....	29,422
1881	.....	33,456
1891	.....	31,880
1901	.....	48,829
1913	.....	430
1914	.....	649
1915	.....	1,216
1916	.....	1,506
1917	.....	2,283
1918	.....	212
1919	.....	84
1920	.....	465
1921	.....	9,371

Titanium and Ferrotitanium

	Pounds.	Dollars.
1921	2,315	1,030

Not stated prior to 1921.

Toluol.

	Pounds.	Dollars.
1917	135,000	81,000
1918	.....	.....
1919	.....	.....
1920	1,195,706	30,768
1921	.....	.....

Not stated prior to 1917.

Toluolenediamine

	Pounds.	Dollars.
1921	175	238

Not stated prior to 1921.

Tonka Beans.

	Pounds.	Dollars.
1871	.....	19,694
1881	.....	80,636
1891	.....	312,537
1901	.....	19,821
1913	783,888	1,140,409
1914	545,156	677,195
1915	132,119	95,222
1916	143,321	94,700
1917	222,754	156,974
1918	405,429	204,260
1919	85,487	46,591
1920	266,090	255,497
1921	139,649	106,481

Turmeric.

	Pounds.	Dollars.
1901	.....	43,874
1913	.....	33,735
1914	.....	22,978
1915	.....	10,145
1916	.....	180,948
1917	.....	112,372
1918	.....	602
1919	689,962	46,205
1920	1,312,539	92,413
1921	737,736	37,136

Quantity not stated prior to 1919.

Turpentine, Spirits of.

	Gallons.	Dollars.
1871	128	116
1881	.....	.....
1891	2,900	1,219
1901	12,697	4,486
1913	56,457	19,295
1914	72,679	28,818
1915	13,680	6,095
1916	20,675	8,252
1917	18,286	6,271
1918	1,433	564
1919	1,422	724
1920	28,506	37,555
1921	16,069	15,121

Turpentine, Venice.

	Pounds.	Dollars.
1871	.....	2,980
1881	56,732	8,104
1891	70,185	8,138
1901	191,026	14,789
1913	80,678	9,169
1914	112,010	17,434
1915	20,904	3,172
1916	7,901	772
1917	1,045	248
1918	.....	.....
1919	.....	.....
1920	5,283	2,540
1921	10,914	2,626

Ultramarine, Dry, in Pulp or Mixed With Oil or Water.

	Pounds.	Dollars.
1871	.....	115,816
1881	913,935	127,352
1891	134,352	11,404
1901	319,903	37,790
1913	695,938	62,250
1914	901,203	78,392
1915	641,381	62,715
1916	401,605	44,709
1917	388,201	36,435
1918	359,136	35,210
1919	197,573	25,861
1920	438,443	41,136
1921	898,739	104,263

Umber and Umber Earths.

	Pounds.	Dollars.
1871	470,392	7,064
1881	1,475,835	11,126
1891	1,586,840	17,150
1901	1,798,788	13,689
1914	3,381,919	25,798
1915	7,225,537	36,128
1916	8,914,399	55,076
1917	9,211,112	66,217
1918	665,195	18,850
1919	425,017	11,776
1920	5,007,345	47,205
1921	7,124,483	77,526

Uranium, Oxide and Salts of.

	Pounds.	Dollars.
1891	.....	1,974
1901	.....	15,573
1913	.....	21,435
1914	.....	5,782
1915	.....	1,969
1916	.....	2,099
1917	.....	3,018
1918	.....	.....
1919	154	1,309
1920	.....	.....
1921	441	468

Quantity not stated prior to 1919.

Urea.

	Pounds.	Dollars.
1913	.....	.....
1914	17,981	8,799
1915	65,464	31,904
1916	79,172	32,499
1917	56,429	26,248
1918	22,777	17,479
1919	11,576	7,693
1920	18,693	10,784
1921	7,714	5,349

Vanilla Beans.

	Pounds.	Dollars.
1871	14,764	113,212
1881	37,214	206,030
1891	171,024	594,949
1901	248,994	875,229
1913	1,049,617	2,641,574
1914	694,531	1,739,674
1915	749,146	1,839,995
1916	796,890	1,474,229
1917	733,565	1,583,325
1918	759,096	1,202,413
1919	1,003,072	1,687,305
1920	1,055,670	2,181,210
1921	977,004	1,811,396

Valerian Root.

	Pounds.	Dollars.
1919	54,847	34,450
1920	184,195	64,863
1921	23,084	4,624

Not stated prior to 1919.

Valonia.

	Pounds.	Dollars.
1913	5,295,762	79,610
1914	7,654,056	116,406
1915	6,352,190	88,061
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	150	5
1920	16,636,249	651,984
1921	11,723,598	331,443

Valonia and Myrabolans Extract for Tanning, Not Containing Alcohol.

	Pounds.	Dollars.
1919	2,037,349	40,202
1920	2,058,075	59,765
1921	967,892	26,215

Not stated prior to 1919.

Vanillin.

	Ounces.	Dollars.
1901	5,513	2,475
1914	33,668	9,446
1915	451	98
1916	.....	.....
1917	.....	.....
1918	.....	.....
1919	.....	.....
1920	71	94
1921	36,178	22,530

Varnish, Gold Size, or Japan.

	Gallons.	Dollars.
1871	.....	252
1881	.....	2,789
1891	.....	1,618
*1901	.....	.....
1914	.....	8,706
1915	.....	10,228
1916	.....	423
1917	.....	2,504
1918	.....	1,217
1919	2,005	8,192
1920	930	2,183
1921	1,019	4,456

* Included in "All Other."
Not stated prior to 1914.
Quantity not stated prior to 1919.

Varnish, Spirit.

	Gallons.	Dollars.
1891	2,472	7,456
1901	2,603	4,774
1914	10,127	24,329
1915	581	1,937
1916	1,318	6,874
1917	2,771	13,425
1918	1,286	3,033
1919	37	676
1920	782	3,531
1921	707	2,786

Varnish, All Other.

	Gallons.	Dollars.
1871	23,802	72,266
1881	86,814	140,651
1891	32,600	91,111
1901	43,007	114,985
1914	16,888	31,032
1915	27,943	51,791
1916	25,542	62,776
1917	20,366	47,740
1918	10,923	24,340
1919	4,256	14,370
1920	24,271	78,507
1921	17,583	65,292

Venetian Red.

	Pounds.	Dollars.
1891	.....	19,138
1901	4,517,458	36,492
1914	3,858,611	33,077
1915	2,478,959	20,677
1916	1,687,616	12,947
1917	835,161	8,296
1918	433,638	5,135
1919	275,800	3,627
1920	278,673	4,524
1921	393,722	7,968

Verdigris or Acetate and Sub-Acetate of Copper.

	Pounds.	Dollars.
1871	331,657	56,873
1881	160,745	35,163
1891	212,019	32,016
1901	44,439	6,211
1914	19,009	2,530
1915	17,569	2,491
1916	81,005	15,648
1917	50,216	13,052
1918	26,837	8,284
1919	34,280	11,911
1920	8,809	2,122
1921	27,607	5,760

Vermilion Reds.

	Pounds.	Dollars.
1871	79,195	43,935
1881	14,243	7,392
1891	35,381	18,632
1901	110,961	27,958
1914	72,881	34,879
1915	95,659	58,097
1916	71,515	92,990
1917	17,557	24,170
1918	7,620	10,116
1919	9,556	17,439
1920	35,670	43,948
1921	22,203	22,868

Wash Blue Containing Ultramarine.

	Pounds.	Dollars.
1891	166,327	23,407
1901	454,032	60,279
1914	.....	12,906
1915	.....	6,485
1916	.....	4,967
1917	.....	25,280
1918	.....	15,686
1919	53,703	11,261
1920	134,812	22,955
1921	83,437	17,206

Quantity not stated where no figures are given.

Wax, Mineral or Vegetable

	Pounds.	Dollars.
1881	98,911	12,792
1891	1,486,125	127,159
1901	4,944,891	490,775

Stated separately for later years.

Wax, Mineral.

	Pounds.	Dollars.
1914	7,974,157	537,684
1915	6,284,757	401,500
1916	2,081,083	141,539
1917	2,054,722	150,241
1918	1,708,514	135,920
1919	2,680,155	313,371
1920	2,717,300	423,468
1921	4,757,396	433,076

Wax, Vegetable.

	Pounds.	Dollars.
1914	4,336,276	1,043,337
1915	5,388,398	999,535
1916	9,594,111	1,551,996
1917	7,210,103	1,742,640
1918	8,636,881	2,670,022
1919	8,331,475	3,012,783
1920	9,949,567	3,681,707
1921	6,235,416	1,600,074

White Lead.

	Pounds.	Dollars.
1871	8,337,842	483,392
1881	1,068,031	60,133
1891	628,414	43,041
1901	379,388	21,993
1914	656,884	44,436
1915	514,876	35,743
1916	153,474	11,970
1917	57,045	5,054
1918	887	239
1919	21,153	2,477
1920	33,472	4,724
1921	225,930	24,690

Whiting and Paris White, Dry.

	Pounds.	Dollars.
1871	5,219,396	24,710
1881	1,974,913	7,806
1891	1,042,518	4,239
1901	507,745	1,863
1914	2,361,605	10,453
1915	5,387,038	15,705
1916	3,655,123	14,459
1917	2,147,895	11,292
1918	4,908,295	31,033
1919	586,780	5,097
1920	3,639,237	28,610
1921	20,393,338	191,558

Witherite.

	Pounds.	Dollars.
1891	.....	13,068
1901	.....	15,208
1914	1,223,926	7,927
1915	838,292	6,674
1916	1,714,414	20,446
1917	1,420,752	16,071
1918	1,194,268	20,146
1919	46,468	2,555
1920	1,195,824	22,465
1921	2,516,289	53,748

Wood Flour.

	Pounds.	Dollars.
1914	15,171,972	84,751
1915	11,482,934	60,131
1916	13,731,979	74,479
1917	8,703,644	57,521
1918	3,738,486	43,852
1919	840,000	9,559
1920	2,922,063	41,355
1921	9,442,617	196,176

Xylidine

	Pounds.	Dollars.
1920	56,047	41,237
1921	.....	.....

Not stated prior to 1920.

Xylol.

	Pounds.	Dollars.
1917	181,104	8,836
1918	.....	.....
1919	.....	.....
1920	.....	.....
1921	.....	.....

Not stated prior to 1917.

Zaffer

	Pounds.	Dollars.
1920	220	14
1921	.....	.....

Not stated prior to 1920.

Zinc Bearing Ores, Includes Calamine for Smelting or Refining in Bonded Works for Export

	Zinc contents, pounds.	Dollars.
1913	25,214,528	526,173
1914	11,762,861	169,986
1915	14,259,176	321,135
1916	81,779,564	3,376,166
1917	293,958,919	8,186,015
1918	31,822,890	580,758
1919	63,636,426	1,347,067
1920	18,965,938	310,515
1921	41,628,246	587,126

Zinc, Ashes of

	Pounds.	Dollars.
1871	2,075,899	103,493
1881	2,044,778	106,990
1891	.....	.....
1901	.....	.....
1921	.....	.....

Zinc, Chloride of.

	Pounds.	Dollars.
1901	898,205	28,192
1913	1,252,319	37,078
1914	789,296	23,503
1915	194,250	5,805
1916	12,643	463
1917	6,216	629
1918	197,570	15,381
1919	.....	.....
1920	80,228	7,762
1921	4,054,862	235,274

Zinc Dust.

	Pounds.	Dollars.
1913	5,615,706	317,492
1914	4,788,433	223,775
1915	2,278,533	132,822
1916	1,365,705	255,192
1917	522,587	83,016
1918	263,428	25,109
1919	24,982	1,637
1920	98,921	8,036
1921	13,023	2,287

Zinc Oxide, Dry.

	Pounds.	Dollars.
1912	4,842,948	310,362
1913	6,148,120	389,485
*1914	1,408,162	88,419

* Figures are for July 1 to October 3, 1913. Stated separately after October 3, 1913.

Zinc, Oxide of, Ground, Dry.

	Pounds.	Dollars.
1891	2,629,858	136,366
1901	2,831,620	145,823
1914	5,315,807	309,106
1915	2,565,434	148,143
1916	1,441,299	244,934
1917	285,433	65,633
1918	294,736	55,302
1919	132,486	30,346
1920	1,549,644	174,658
1921	1,886,076	171,328

Zinc, Oxide of, Ground in or Mixed with Oil or Water.

	Pounds.	Dollars.
1891	139,371	7,226
1901	53,851	4,182
1914	292,571	21,595
1915	156,451	11,525
1916	66,347	7,187
1917	14,089	1,225
1918	273	57
1919	7,088	1,059
1920	13,571	2,358
1921	89,641	11,009

Zinc Sulphate.

	Pounds.	Dollars.
1881	12,898	294
1891	.....	.....
1901	32,812	752
1913	23,778	817
1914	107,065	2,176
1915	68,940	1,027
1916	.....	.....
1917	28	44
1918	21	35
1919	221	113
1920	10	19
1921	100,829	3,314

Zinc, Sulphide of, White.

	Pounds.	Dollars.
1901	1,595,236	47,697
1913	5,163,642	144,812
1914	1,338,999	42,130
1915	283,356	8,979
1916	96,402	7,368
1917	53,587	8,451
1918	7,098	4,535
1919	5,703	1,837
1920	15,271	5,475
1921	69,135	16,915

Domestic Exports from the United States for Fifty Years, 1871-1921

The official record of exports from the United States is not as complete as that of the imports. We have made a compilation of available export figures, and the following tables are as complete as records permit.

Abrasives, Wheels, Emery, and Other

		Dollars.
1891	.....	34,651
1901	.....	172,766
1915	.....	736,879
1916	.....	1,630,265
1917	.....	3,846,101
1918	.....	4,697,443
1919	.....	3,323,219
1920	.....	2,546,991
1921	.....	2,439,021

Abrasives, All Other

		Dollars.
1901	.....	18,310
1915	.....	1,065,369
1916	.....	1,703,073
1917	.....	2,228,113
1918	.....	1,771,665
1919	.....	2,541,134
1920	.....	3,102,186
1921	.....	3,084,460

Acid, Carbolic

	Pounds.	Dollars.
1918	8,688,554	4,236,288
1919	5,810,314	2,173,171
1920	2,223,205	420,101
1921	659,890	80,297

Not stated prior to 1918.

Acid, Nitric

	Pounds.	Dollars.
1918	961,494	101,040
1919	737,273	86,788
1920	820,517	105,882
1921	267,119	48,552

Not stated prior to 1918.

Acid, Picric

	Pounds.	Dollars.
1918	53,688,240	33,902,957
1919	12,507,483	6,565,473
1920	8,073	2,430
1921	3,730	2,142

Not stated prior to 1918.

Acid, Sulphuric

	Pounds.	Dollars.
1913	9,790,532	89,783
1914	12,131,750	125,892
1915	46,771,510	516,436
1916	82,020,246	1,990,532
1917	58,604,048	963,888
1918	67,654,722	1,119,907
1919	47,413,636	805,430
1920	32,334,393	778,287
1921	18,690,704	446,380

Acids, All Other

		Dollars.
1871	.....	57,730
1881	.....	39,240
1891	.....	121,851
1901	.....	198,233
1913	.....	364,347
1914	.....	357,035
1915	.....	2,611,741
1916	.....	22,717,335
1917	.....	54,725,124
1918	.....	5,673,707
1919	.....	4,573,969
1920	.....	5,297,987
1921	.....	3,029,332

Alcohol, Wood

	Gallons.	Dollars.
1901	919,504	476,582
1913	1,837,173	788,143
1914	1,598,776	652,486
1915	944,374	438,846
1916	1,472,258	857,161
1917	825,334	646,939
1918	2,538,001	2,070,026
1919	1,339,204	1,299,340
1920	687,008	775,117
1921	407,763	1,031,686

Alcohol, Grain, Including Pure, Neutral or Cologne Spirit

	Proof gallons.	Dollars.
1891	418,935	180,290
1901	237,509	97,633
1913	151,232	58,346
1914	187,845	67,728
1915	200,455	108,985
1916	24,433,243	8,784,742
1917	51,941,634	16,027,867
1918	8,351,142	4,619,878
1919	11,884,383	6,145,115
1920	27,376,167	10,455,247
1921	14,035,394	7,569,381

Aluminum, Ingot Metal and Alloys

	Pounds.	Dollars.
1918	21,207,641	8,611,447
1919	11,363,094	4,194,099
1920	7,834,746	2,330,073
1921	1,989,569	614,142

Not stated prior to 1918.

Asbestos, Ore and Unmanufactured

	Tons.	Dollars.
1917	219	21,851
1918	767	117,413
1919	520	58,448
1920	1,079	223,560
1921	711	139,918

Not stated prior to 1917.

Ashes, Pot and Pearl

	Pounds.	Dollars.
1871	1,474,954	103,249
1881	1,636,839	141,463
1891	430,582	24,432
1901	1,043,817	56,072

Stated as "Potash, All Other," for later years.

Asphaltum, Unmanufactured

	Tons.	Dollars.
1914	49,831	1,131,086
1915	28,553	616,240
1916	42,754	830,946
1917	34,423	712,051
1918	22,065	548,745
1919	22,754	729,662
1920	47,024	1,386,770
1921	43,630	1,290,467

Not stated prior to 1914.

Asphaltum, Manufactured

		Dollars.
1914	.....	362,347
1915	.....	400,154
1916	.....	510,290
1917	.....	554,065
1918	.....	489,038
1919	.....	673,231
1920	.....	682,753
1921	.....	781,947

Not stated prior to 1914.

Baking Powder

	Pounds.	Dollars.
1901	822,540	292,081
1914	2,725,964	790,274
1915	3,376,780	881,879
1916	3,969,985	860,118
1917	4,836,844	1,028,352
1918	6,022,402	1,838,808
1919	4,257,487	1,257,805
1920	5,595,126	1,648,906
1921	3,491,666	1,229,400

Bark, for Tanning

	Tons.	Dollars.
1871	.....	96,195
1881	.....	120,426
1891	.....	241,382
1901	.....	386,238
1914	1,212	26,939
1915	825	21,424
1916	5,226	123,675
1917	1,850	49,907
1918	194	5,857
1919	726	40,151
1920	513	31,027
1921	382	21,636

Bark for Tanning, Eextract of

(See Tanning Extract.)

Bauxite Concentrates

	Tons.	Dollars.
1915	11,949	531,404
1916	19,317	929,309
1917	18,495	1,118,777
1918	21,313	1,463,842
1919	18,187	1,397,200
1920	29,899	1,769,390
1921	13,081	1,060,732

Not stated prior to 1915.

Beeswax, Unmanufactured

	Pounds.	Dollars.
1881	164,090	40,203
1891	120,548	30,027
1901	140,276	39,404
1914	96,215	27,292
1915	181,328	57,971
1916	147,772	48,252
1917	383,667	131,691
1918	189,871	68,117
1919	134,508	67,237
1920	641,357	287,051
1921	189,616	89,497

Benzol

(See "Coal Tar Distillates.")

Blacking and Polishes

		Dollars.
1915	.....	503,629
1916	.....	784,552
1917	.....	1,036,234
1918	.....	1,009,100
1919	.....	2,077,319
1920	.....	2,845,110
1921	.....	2,072,963

Not stated prior to 1915.

Bones, Hoofs, and Horns, Unmanufactured

		Dollars.
1871	.....	55,629
1881	.....	73,807
1891	.....	335,710
1901	.....	218,680
1913	.....	102,705
1914	.....	61,180
1915	.....	16,182
1916	.....	37,558
1917	.....	39,804
1918	.....	338,642
1919	.....	330,677
1920	.....	374,136
1921	.....	118,021

Brushes

		Dollars.
1915	.....	604,916
1916	.....	1,132,262
1917	.....	863,630
1918	.....	984,085
1919	.....	1,324,367
1920	.....	1,710,678
1921	.....	1,878,901

Not stated prior to 1915.

Calcium Carbide

	Pounds.	Dollars.
1913	33,419,375	990,027
1914	32,845,649	962,040
1915	35,772,867	1,097,952
1916	37,873,692	1,211,267
1917	31,278,971	1,001,861
1918	28,814,176	1,327,864
1919	21,278,167	1,537,984
1920	21,164,404	1,040,754
1921	20,147,753	967,024

Candles

	Pounds.	Dollars.
1871	2,321,959	348,308
1881	1,780,572	210,842
1891	1,546,079	149,112
1901	2,432,815	236,547
1913	2,595,912	246,274
1914	3,047,756	283,018
1915	4,230,026	417,345
1916	6,120,695	575,650
1917	6,576,632	749,369
1918	5,530,017	900,514
1919	9,305,651	1,901,536
1920	7,691,420	1,404,616
1921	3,252,838	708,149

Cement, Hydraulic

	Barrels (380 lbs.).	Dollars.
1901	218,240	438,915
1914	2,391,453	2,382,282
1915	2,361,451	3,241,686
1916	2,740,596	3,780,564
1917	2,345,952	4,111,550
1918	2,575,126	5,896,905
1919	1,938,223	5,871,902
1920	3,179,549	9,599,384
1921	2,023,167	7,700,081

Chalk, Manufactures of

		Dollars.
1914	.....	40,154
1915	.....	51,175
1916	.....	60,417
1917	.....	105,202
1918	.....	186,711
1919	.....	273,741
1920	.....	373,200
1921	.....	467,993

Not stated prior to 1914.

Chewing Gum

		Dollars.
1901	.....	11,686
1914	.....	178,630
1915	.....	281,433
1916	.....	574,423
1917	.....	1,084,732
1918	.....	1,896,135
1919	.....	1,794,880
1920	.....	2,617,483
1921	.....	1,510,679

Clays, Fire Clay

	Tons.	Dollars.
1871	.....	10,904
1881	.....	156
1891	.....	.....
1901	.....	2,330
1917	44,098	201,398
1918	50,529	310,527
1919	44,002	296,108
1920	32,076	257,443
1921	45,574	387,926

Clays, All Other

	Tons.	Dollars.
1871	.....	.....
1881	.....	8,762
1891	.....	26,857
1901	.....	146,131
1917	26,078	169,544
1918	22,293	189,156
1919	23,752	196,943
1920	40,562	440,874
1921	45,505	583,938

Coal Tar

	Barrels.	Dollars.
1913	121,168	152,273
1914	22,150	43,145
1915	21,317	39,047
1916	74,809	129,220
1917	62,674	145,574
1918	53,935	147,765
1919	60,672	201,653
1920	81,640	192,294
1921	128,103	287,300

Coal Tar Distillates—Benzol

	Pounds.	Dollars.
1918	25,400,852	2,152,315
1919	24,402,278	1,236,282
1920	17,253,314	732,836
1921	66,622,862	3,182,721

Not stated prior to 1918.

Coal Tar Distillates—All Other

		Dollars.
1918	.....	5,620,851
1919	.....	3,748,370
1920	.....	3,618,424
1921	.....	4,101,129

Not stated prior to 1918.

Copper, Unrefined, Black, Blister and Converter Copper in Bars, Pigs or Other Forms

	Pounds.	Dollars.
1916	4,921,089	1,137,770
1917	18,200,897	5,509,818
1918	26,550,026	6,920,687
1919	1,774,844	483,590
1920	2,929,227	555,615
1921	371,096	85,361

Not stated prior to 1916.

Copper, Sulphate of (Blue Vitriol)

	Pounds.	Dollars.
1901	49,223,183	2,324,738
1913	5,052,680	262,561
1914	7,375,775	330,007
1915	10,238,808	445,580
1916	17,978,242	2,469,437
1917	28,128,190	3,012,954
1918	15,164,978	1,431,262
1919	13,223,923	1,339,945
1920	4,511,284	373,834
1921	4,297,378	297,395

Copper Wire (except insulated)

	Pounds.	Dollars.
1916	24,369,832	5,208,750
1917	28,958,007	9,269,683
1918	18,586,323	5,689,228
1919	42,101,676	12,334,212
1920	48,317,657	11,463,248
1921	24,948,579	5,794,401

Cork, Manufactures of

		Dollars.
1891	.....	7,103
1901	.....	36,717
1913	.....	339,436
1914	.....	.....
1915	.....	211,795
1916	.....	455,424
1917	.....	541,579
1918	.....	847,377
1919	.....	1,150,524
1920	.....	1,140,517
1921	.....	1,757,636

Druggists' Rubber Sundries

		Dollars.
1918	.....	884,245
1919	.....	1,010,170
1920	.....	1,530,326
1921	.....	1,512,852

Not stated prior to 1918.

Dyes and Dyestuffs

		Dollars.
1871	.....	655,115
1881	.....	626,749
1891	.....	660,590
1901	.....	394,278
1913	.....	347,656
1914	.....	356,919
1915	.....	1,775,925
1916	.....	5,102,002
1917	.....	11,710,887

Stated separately after 1917; see following classes.

Dyes and Dyestuffs—Aniline

		Dollars.
1918	.....	7,298,298
1919	.....	10,183,948
1920	.....	17,130,397
1921	.....	13,577,788

Dyes and Dyestuffs—Logwood Extract

		Dollars.
1918	.....	2,339,480
1919	.....	1,556,023
1920	.....	1,832,231
1921	.....	1,471,040

Dyes and Dyestuffs—All Other

		Dollars.
1918	.....	7,284,110
1919	.....	6,125,394
1920	.....	6,823,937
1921	.....	3,571,309

Eggs, Poultry

	Doz.	Dollars.
1871	5,017	1,428
1881	80,146	13,776
1891	363,116	64,259
1901	3,692,875	676,232
1918	18,969,167	7,167,134
1919	28,384,783	12,444,345
1920	38,326,986	19,149,536
1921	26,960,098	11,251,081

Egg Yolks, Canned Eggs, Etc.

		Dollars.
1901	.....	1,610
1913	.....	67,854
1914	.....	47,968
1915	.....	88,865
1916	.....	210,255
1917	.....	72,491
1918	.....	525,880
1919	.....	341,304
1920	.....	282,198
1921	.....	201,832

Explosives, Dynamite

	Pounds.	Dollars.
1915	7,712,999	924,079
1916	19,561,654	3,656,653
1917	16,254,201	3,488,143
1918	18,911,668	4,991,508
1919	13,525,096	3,190,447
1920	12,566,057	2,519,512
1921	11,878,600	2,451,856

Not stated prior to 1915.

Explosives, Gunpowder, Including Smokeless

	Pounds.	Dollars.
1871	391,300	95,397
1881	1,694,483	275,579
1891	733,834	88,676
1901	1,463,499	193,345
1915	7,686,480	5,091,442
1916	212,821,076	173,736,374
1917	404,668,874	330,664,927
1918	337,505,953	257,190,883
1919	109,613,165	85,812,212
1920	1,721,991	710,397
1921	43,485,291	38,286,158

Fertilizers, Ammonia, Sulphate of

	Tons.	Dollars.
1920*	17,489	2,264,387
1921	65,915	7,620,130

* Figures cover period beginning May 1, 1920.

Fertilizers, Guano

	Tons.	Dollars.
1871	1,203	35,000
1881	959	29,581

Not separately stated for later years.

Fertilizers, Phosphates, Crude

	Tons.	Dollars.
1901	624,966	5,048,393

Stated separately for later years.

Fertilizers, Phosphate High-Grade Hard Rock

	Tons.	Dollars.
1913	494,200	4,942,000
1914	475,335	4,753,350
1915	46,050	460,050
1916	44,330	429,130
1917	14,963	150,505
1918	24,047	174,373
1919	80,834	715,104
1920	351,352	3,884,147
1921	274,953	4,087,512

Fertilizers, Phosphate Rock, Land Pebble

	Tons.	Dollars.
1913	777,898	4,577,962
1914	1,000,630	5,857,969
1915	222,472	1,276,759
1916	255,206	1,324,877
1917	178,094	705,251
1918	110,909	456,383
1919	78,027	448,855
1920	395,581	2,991,371
1921	651,749	5,084,516

Fertilizers, Phosphate Rock, All Other

	Tons.	Dollars.
1913	794	4,127
1914	1,906	6,516
1915	887	5,888
1916	350	3,058
1917	8,108	255,389
1918	22,623	198,778
1919	30,026	308,653
1920	30,300	419,667
1921	16,862	277,747

Fertilizers, Superphosphates

	Tons.	Dollars.
1917	6,508	67,489
1918	6,155	202,268
1919	51,405	1,548,198
1920	93,432	3,099,855
1921	29,954	1,311,054

Not stated prior to 1917.

Fertilizers, All Other

	Tons.	Dollars.
1871	.....	264,837
1881	.....	583,360
1891	231,915	2,182,274
1901	18,760	377,567
1913	74,834	1,875,999
1914	61,601	1,360,903
1915	89,224	2,128,190
1916	124,979	3,580,543
1917	216,222	6,056,887
1918	89,190	4,808,337
1919	106,656	6,384,432
1920	241,215	20,583,984
1921	108,431	5,988,308

Ferrovanadium

	Pounds.	Dollars.
1915	755,905	641,792
1916	1,113,076	1,018,121
1917	2,613,387	2,831,669
1918	2,089,347	2,582,670
1919	637,604	770,862
1920	184,250	253,579
1921	450,070	916,147

Not stated prior to 1915.

Fire Extinguishers

		Dollars.
1917	.....	895,591
1918	.....	1,688,963
1919	.....	1,055,502
1920	.....	887,484
1921	.....	757,572

Not stated prior to 1917.

Flavoring Extracts and Fruit Juices

		Dollars.
1913	.....	133,990
1914	.....	106,892
1915	.....	136,742
1916	.....	466,914
1917	.....	581,550
1918	.....	1,018,102
1919	.....	949,726
1920	.....	1,425,380
1921	.....	1,236,135

Fly Paper and Fly Traps

		Dollars.
1914	.....	217,857
1915	.....	115,921
1916	.....	75,155
1917	.....	77,425
1918	.....	102,979
1919	.....	146,690
1920	.....	245,111
1921	.....	283,455

Formaldehyde (Formalin)

		Dollars.
1918	.....	866,038
1919	.....	797,671
1920	.....	2,289,217
1921	.....	1,376,281

Not stated prior to 1918.

German Silver

		Dollars.
1913	.....	65,362
1914	.....	38,691
1915	.....	30,690
1916	.....	273,826
1917	.....	410,295
1918	.....	270,703
1919	.....	304,514
1920	.....	426,768
1921	.....	720,343

Ginseng

	Pounds.	Dollars.
1871	114,221	119,385
1881	338,841	561,545
1891	.....	.....
1901	149,069	801,672
1914	224,605	1,832,686
1915	103,184	919,931
1916	256,082	1,597,508
1917	198,483	1,386,208
1918	259,892	1,717,548
1919	281,623	2,057,161
1920	220,970	2,847,900
1921	157,351	1,623,496

Glass Bottles, Demijohns, Carboys and Jars

		Dollars.
1914	.....	711,353
1915	.....	772,427
1916	.....	2,168,244
1917	.....	2,435,610
1918	.....	2,671,892
1919	.....	3,671,180
1920	.....	7,935,108
1921	.....	7,848,658

Not stated prior to 1914.

Glassware, Chemical

		Dollars.
1918	.....	153,937
1919	.....	198,033
1920	.....	207,366
1921	.....	294,672

Not stated prior to 1918.

Glass, Common Window

	Boxes (50 sq. ft.)	Dollars.
1891	.....	11,244
1901	.....	55,286
1913	.....	434,361
1914	.....	311,339
1915	489,288	1,443,113
1916	894,793	3,123,916
1917	942,648	3,483,596
1918	718,443	3,401,120
1919	908,962	6,058,427
1920	682,593	4,494,554
1921	357,578	2,396,185

Quantity not stated prior to 1915.

Glass, Plate, Unsilvered

	Square feet.	Dollars.
1913	165,129	58,830
1914	74,867	35,767
1915	2,730,046	831,727
1916	5,149,512	1,568,181
1917	6,117,955	2,223,329
1918	5,556,719	2,451,918
1919	8,584,758	4,912,896
1920	4,783,766	2,878,628
1921	3,053,579	2,188,104

Glucose (Corn Sirup)

	Pounds.	Dollars.
1881	821,937	28,587
1891	58,149,427	1,394,131
1901	204,209,974	3,113,898
1913	156,365,604	3,682,371
1914	162,680,378	3,766,284
1915	125,434,878	3,103,561
1916	148,523,098	3,772,860
1917	170,025,606	5,960,586
1918	80,970,744	4,949,159
1919	118,835,491	6,588,697
1920	219,425,235	13,831,817
1921	125,972,386	5,022,693

Glue

	Pounds.	Dollars.
1871	81,110	12,316
1881	367,069	59,038
1891	986,552	110,292
1901	2,703,400	254,477
1913	2,544,932	276,619
1914	2,351,770	258,611
1915	2,874,225	298,136
1916	4,946,298	531,320
1917	4,064,231	513,775
1918	4,901,764	837,079
1919	7,283,683	1,432,580
1920	13,039,002	2,186,756
1921	5,901,872	1,148,666

Glycerin

	Pounds.	Dollars.
1918	21,045,991	10,587,531
1919	13,018,882	6,833,432
1920	2,257,623	522,611
1921	1,388,194	316,753

Not stated prior to 1918.

Grape Sugar (Corn Sugar)

	Pounds.	Dollars.
1881	12,438,247	422,828
1891	.....	.....
1913	41,783,642	970,025
1914	36,850,496	799,635
1915	33,027,630	781,672
1916	37,863,084	962,101
1917	44,947,709	1,398,145
1918	16,887,557	1,045,512
1919	17,394,892	875,355
1920	25,839,015	1,559,620
1921	15,981,960	836,858

Grease, Lubricating

		Dollars.
1914	.....	2,394,918
1915	.....	2,384,395
1916	.....	3,994,436
1917	.....	2,816,958
1918	.....	2,986,815
1919	.....	4,710,484
1920	.....	6,157,323
1921	.....	6,851,936

Not stated prior to 1914.

Grease, Soap Stock and Other

		Dollars.
1881	.....	725,321
1891	.....	2,038,886
1901	.....	3,339,948
1914	.....	5,046,959
1915	.....	4,266,097
1916	.....	3,156,568
1917	.....	3,405,227
1918	.....	2,612,488
1919	.....	2,981,497
1920	.....	8,994,603
1921	.....	4,602,801

Hair, Animal, Unmanufactured

		Dollars.
1914	.....	1,085,038
1915	.....	1,402,189
1916	.....	2,038,838
1917	.....	1,451,354
1918	.....	1,080,624
1919	.....	1,223,628
1920	.....	1,686,833
1921	.....	735,266

Not stated prior to 1914.

Honey

	Pounds.	Dollars.
1871	.....	2,479
1881	.....	109,007
1891	.....	83,325
1901	.....	55,574
1914	.....	135,660
1915	.....	114,038
1916	.....	252,487
1917	.....	736,139
1918	16,090,672	2,509,570
1919	10,368,342	2,422,454
1920	3,659,198	655,482
1921	1,112,015	182,619

Quantity not stated prior to 1918.

Hops

	Pounds.	Dollars.
1871	3,273,653	316,288
1881	8,990,655	2,016,970
1891	8,736,080	2,327,474
1901	14,963,676	2,466,515
1914	24,262,896	6,953,529
1915	16,210,443	3,948,020
1916	22,409,818	4,383,929
1917	4,824,876	773,926
1918	3,494,579	993,773
1919	7,466,952	2,333,850
1920	30,779,508	17,716,222
1921	22,206,028	10,873,263

Infants' Food

		Dollars.
1918	.....	1,908,384
1919	.....	2,459,635
1920	.....	3,032,330
1921	.....	1,520,259

Not stated prior to 1918.

Ink, Printers'

		Dollars.
1901	.....	171,758
1915	.....	384,847
1916	.....	682,165
1917	.....	751,411
1918	.....	882,062
1919	.....	1,644,029
1920	.....	1,590,096
1921	.....	1,550,548

Not stated prior to 1901.

Ink, All Other

		Dollars.
1871	.....	12,158
1881	.....	8,449
1891	.....	122,235
1901	.....	119,467
1915	.....	154,874
1916	.....	285,277
1917	.....	377,446
1918	.....	407,093
1919	.....	726,204
1920	.....	886,436
1921	.....	774,423

Instruments, Medical and Surgical

		Dollars.
1913	.....	222,650
1914	.....	206,421
1915	.....	560,741
1916	.....	355,170
1917	.....	516,355
1918	.....	671,250
1919	.....	860,179
1920	.....	743,111
1921	.....	802,769

Instruments, Optical

		Dollars.
1915	.....	1,018,016
1916	.....	2,593,509
1917	.....	2,945,920
1918	.....	1,073,339
1919	.....	1,209,911
1920	.....	1,465,265
1921	.....	1,158,559

Not stated prior to 1915.

Iron, Pig—Ferromanganese

	Tons.	Dollars.
1901	16	1,296
1918	4,935	1,054,548
1919	2,184	448,899
1920	2,374	354,570
1921	3,335	608,369

Iron, Pig—Ferrosilicon

	Tons.	Dollars.
1918	8,599	917,686
1919	3,712	378,523
1920	398	24,578
1921	577	36,725

Lard

	Pounds.	Dollars.
1871	80,037,297	10,563,010
1881	378,142,496	35,226,575
1891	498,343,927	34,414,323
1901	611,357,514	46,560,148
1913	519,025,384	58,187,336
1914	481,457,792	54,402,911
1915	475,531,908	52,440,133
1916	427,011,338	47,934,376
1917	444,769,540	77,608,913
1918	392,506,355	98,216,856
1919	724,771,383	210,175,906
1920	587,224,549	171,523,351
1921	746,157,356	131,329,199

Lard Compounds and Other Substitutes for Lard

	Pounds.	Dollars.
1901	23,359,966	1,449,578
1913	67,456,832	5,915,759
1914	58,303,564	5,480,139
1915	69,980,614	6,045,752
1916	52,843,311	5,147,434
1917	56,359,393	8,269,844
1918	31,278,382	6,633,640
1919	128,157,327	31,138,158
1920	44,195,842	11,850,311
1921	42,155,971	6,099,914

Lard, Neutral

	Pounds.	Dollars.
1913	44,777,692	5,129,899
1914	29,323,786	3,270,236
1915	26,021,054	3,022,321
1916	34,426,590	4,050,397
1917	17,576,240	3,168,089
1918	4,258,529	1,074,603
1919	17,395,888	5,392,710
1920	23,202,027	6,916,279
1921	22,544,303	4,199,296

Lead, Pigs and Bars

	Pounds.	Dollars.
1901	6,354,924	285,158
1914	40,323,662	1,511,860
1915	193,024,221	7,926,604

Stated as following classes after 1915.

Lead, Pigs and Bars, Produced from Domestic Ore

	Pounds.	Dollars.
1916	153,941,629	9,190,302
1917	159,673,425	11,721,920
1918	129,954,274	10,390,928
1919	32,483,910	2,360,495
1920	8,132,608	610,728
1921	2,702,864	225,414

Lead, Pigs and Bars, Produced from Foreign Ore

	Pounds.	Dollars.
1916	52,265,948	2,114,692
1917	28,254,508	2,108,150
1918	84,260,273	6,965,492
1919	117,578,386	7,879,527
1920	61,648,426	3,596,098
1921	18,896,711	1,049,265

Lime

	Barrels.	Dollars.
1901	28,487	29,562
1913	284,685	214,543
1914	285,749	200,437
1915	169,078	117,644
1916	258,538	143,182
1917	168,521	126,266
1918	142,525	150,197
1919	68,015	108,047
1920	54,424	111,162
1921	64,568	143,068

Lime, Acetate

	Pounds.	Dollars.
1901	61,291,544	1,101,037
1913	80,579,838	2,221,427
1914	68,160,224	1,560,933
1915	24,673,247	486,405
1916	18,804,972	961,645
1917	12,959,222	607,847
1918	15,490,032	797,996
1919	9,369,940	401,476
1920	32,885,132	827,096
1921	12,845,700	350,635

Lime, Chloride of (Bleaching Powder)

	Pounds.	Dollars.
1918	13,060,401	558,066
1919	15,639,918	450,142
1920	31,232,379	840,092
1921	37,425,093	1,146,378

Not stated prior to 1918.

Matches

		Dollars.
1871	.....	183,829
1881	.....	112,167
1891	.....	73,220
1901	.....	88,739
1913	.....	430,650
1914	.....	471,385
1915	.....	572,481
1916	.....	558,911
1917	.....	389,064
1918	.....	
1919	.....	
1920	.....	
1921	.....	

Medicinal and Pharmaceutical Preparations

		Dollars.
1891	.....	1,880,728
1901	.....	3,440,177
1913	.....	7,110,493
1914	.....	6,721,978
1915	.....	7,130,379
1916	.....	8,397,971
1917	.....	8,613,202
1918	.....	10,190,188
1919	.....	15,277,037
1920	.....	20,124,561
1921	.....	18,038,328

Metal Polish

		Dollars.
1913	.....	127,898
1914	.....	162,504
1915	.....	167,277
1916	.....	225,783
1917	.....	214,800
1918	.....	192,691
1919	.....	262,043
1920	.....	451,934
1921	.....	346,104

Mica and Manufactures of

		Dollars.
1917	.....	88,651
1918	.....	71,285
1919	.....	79,581
1920	.....	155,918
1921	.....	305,345

Not stated prior to 1917.

Mucilage

		Dollars.
1901	.....	8,907
1913	.....	26,238
1914	.....	26,182
1915	.....	14,504
1916	.....	30,149

Included in following class after 1916.

Mucilage and Paste

		Dollars.
1917	.....	337,125
1918	.....	400,813
1919	.....	469,231
1920	.....	659,727
1921	.....	601,263

Nickel, Nickel Oxide and Matte

	Pounds.	Dollars.
1901	5,990,676	1,510,508
1915	29,599,612	11,110,699
1916	25,649,995	9,876,403
1917	31,005,606	12,270,854
1918	18,818,212	7,680,502
1919	10,011,826	3,980,036
1920	2,392,614	1,144,083
1921	131,088	56,555

Oilcake, Cocoanut

	Pounds.	Dollars.
1920	224,313	6,404
1921	473,542	11,353

Not stated prior to 1920.

Oilcake, Corn

	Pounds.	Dollars.
1901	12,703,200	131,774
1913	76,262,845	1,131,330
1914	59,030,623	909,407
1915	45,026,125	798,206
1916	18,996,490	297,041
1917	15,757,612	289,547
1918	457,584	10,246
1919	562,300	16,193
1920	510,800	15,216
1921	1,794,653	29,989

Oilcake, Cottonseed

	Pounds.	Dollars.
*1901	1,258,687,317	13,119,968
1913	1,128,092,367	15,225,798
1914	799,974,252	11,007,441
1915	1,222,699,889	15,432,126
1916	980,664,572	14,749,489
1917	864,862,375	15,059,920
1918	11,045,263	213,542
1919	179,148,955	5,286,428
1920	338,927,893	11,951,112
1921	359,986,856	7,304,118

* Includes "Meal."

Oilcake, Linseed or Flaxseed

	Pounds.	Dollars.
1918	126,184,029	3,210,734
1919	161,088,337	4,753,170
1920	316,496,323	12,015,139
1921	373,079,051	9,624,882

Oilcake and Meal, Flaxseed or Linseed

	Pounds.	Dollars.
1901	455,154,860	5,471,930
1913	838,119,654	12,982,423
1914	662,868,639	9,650,379
1915	524,794,434	9,048,061
1916	640,916,204	11,935,130
1917	536,976,419	10,255,355

Subdivided after 1917.

Oilcake and Meal, All Other

	Pounds.	Dollars.
1871	203,587,040	4,160,021
1881	448,559,413	6,284,364
1891	633,344,851	7,452,094
1913	6,886,270	104,701
1914	8,484,936	100,445
1915	9,900,878	126,414
1916	28,876,367	410,166
1917	21,558,676	398,681
1918	4,865,602	104,865
1919	60,444,481	1,820,674
1920	60,138,141	1,983,802
1921	9,373,533	234,330

Oilcake Meal, Cottonseed

	Pounds.	Dollars.
1915	256,365,126	3,474,244
1916	77,256,997	1,149,478
1917	285,297,316	5,221,091
1918	33,035,530	770,192
1919	132,477,150	3,628,074
1920	110,644,890	3,933,800
1921	94,713,965	1,858,061

Not stated prior to 1915.

Oilcake Meal, Linseed or Flaxseed

	Pounds.	Dollars.
1918	25,215,948	684,614
1919	41,699,626	1,164,396
1920	19,839,580	705,668
1921	18,184,807	449,993

Oil, Animal, Fish

	Gallons.	Dollars
1871	1,402,016	1,145,406
1881	912,380	532,839
1891	1,467,321	401,203
1901	991,870	293,004
1913	1,901,953	501,227
1914	448,366	125,575
1915	88,880	29,802
1916	146,643	69,411
1917	123,848	81,556
1918	455,629	446,589
1919	282,855	365,823
1920	1,310,478	1,172,624
1921	118,261	122,027

Oil, Animal, Lard

	Gallons.	Dollars.
1871	147,802	153,850
1881	836,255	558,576
1891	1,092,448	562,986
1901	766,783	438,645
1913	154,983	113,665
1914	110,199	87,364
1915	104,019	111,637
1916	419,969	308,642
1917	329,244	321,721
1918	91,585	126,672
1919	82,470	124,887
1920	124,231	195,252
1921	89,303	87,438

Oil, Animal, Oleo

	Pounds.	Dollars.
1891	80,231,035	7,859,130
1901	161,651,413	11,846,373
1913	92,849,757	10,866,253
1914	97,017,065	10,156,665
1915	80,481,496	9,341,188
1916	102,645,914	12,519,115
1917	67,110,111	11,065,019
1918	56,603,388	12,152,787
1919	59,292,322	15,670,854
1920	74,529,494	21,153,000
1921	106,414,800	15,211,998

Oil, Animal, Not Otherwise Specified

	Gallons.	Dollars.
1871	80	137
1881	77,496	60,359
1891	512,253	317,594
1901	640,816	286,782
1913	1,603,325	970,717
1914	891,035	609,294
1915	559,197	405,635
1916	655,587	492,964
1917	416,213	378,294
1918	329,576	409,466
1919	1,422,344	2,023,190
1920	1,452,489	2,055,883
1921	340,329	393,252

Oil, Mineral, Crude

	Gallons.	Dollars.
1871	9,460,816	1,820,803
1881	39,984,844	3,065,464
1891	91,415,095	5,876,452
1901	138,448,430	6,686,929
1913	195,642,935	7,750,767
1914	146,477,342	6,812,672
1915	152,514,129	4,911,634
1916	163,734,200	5,754,279
1917	176,368,675	7,162,550
1918	185,069,674	9,288,979
1919	163,782,498	9,905,490
1920	356,542,830	24,263,884
1921	355,200,756	29,137,765

Oil, Mineral, Illuminating

	Gallons.	Dollars.
1871	133,007,177	31,309,780
1881	332,283,045	34,317,695
1891	571,119,805	40,221,201
1901	781,207,105	51,477,267
1913	1,048,894,297	66,189,265
1914	1,157,283,310	74,500,135
1915	886,316,740	53,607,082
1916	823,164,882	54,288,788
1917	833,969,012	642,377
1918	528,217,669	47,261,782
1919	725,686,746	81,495,706
1920	915,138,071	126,392,949
1921	833,194,727	128,917,407

Oil, Mineral, Lubricating and Heavy Paraffin

	Gallons.	Dollars.
1881	4,852,203	1,054,064
1891	33,514,730	4,858,603
1901	71,457,605	10,006,937
1913	213,671,499	29,574,410
1914	196,884,696	27,352,959
1915	214,429,099	28,499,786
1916	250,392,768	37,451,607
1917	271,028,546	43,649,557

Stated as following classes after 1917:—

Oil, Mineral, Lubricating, Paraffin

	Gallons.	Dollars.
1918	10,287,896	2,131,292
1919	7,596,525	1,173,821
1920	6,823,644	1,527,773
1921	1,186,655	573,626

Oil, Mineral, Lubricating, All Other

	Gallons.	Dollars.
1918	259,385,874	64,030,825
1919	265,552,016	84,982,874
1920	329,288,894	110,539,083
1921	332,716,125	136,496,222

Oil, Mineral, Naphthas, Etc., Gasoline

	Gallons.	Dollars.
1913	81,698,917	10,931,490
1914	151,611,537	21,699,475
1915	156,860,666	17,603,317
1916	100,148,554	16,297,561
1917	226,154,560	46,932,967
1918	260,880,122	61,642,859
1919	322,920,087	78,088,061
1920	294,939,121	72,160,278
1921	382,610,683	103,199,531

Oil, Mineral, Naphthas, Etc., All Other

	Gallons.	Dollars.
1871	7,209,592	746,797
1881	17,292,310	1,693,975
1891	12,171,147	993,056
1901	17,834,254	1,555,608
1913	101,821,572	14,269,878
1914	40,840,730	5,653,210
1915	94,335,128	10,296,928
1916	194,644,803	29,472,233
1917	199,563,352	41,057,840
1918	209,029,477	52,739,227
1919	146,301,861	38,654,419
1920	184,761,512	50,537,352
1921	259,603,571	77,415,408

Oil, Mineral, Residuum

	Gallons.	Dollars.
1871	.....	14,770
*1881	77,330	184,411
*1891	38,066	77,422
1901	*622,538	1,376,047
1913	27,513,568	496,237
1914	113,370,245	1,907,715
1915	9,952,970	230,552
1916	13,538,335	388,175
1917	551,967	33,813
1918	881,875	96,480
1919	181,121	14,557
1920	50,272,002	2,732,783
1921	9,825,633	609,302

* Barrels.

Oil, Mineral, Gas Oil and Fuel Oil

	Gallons.	Dollars.
1914	475,143,205	13,747,963
1915	672,931,878	18,543,976
1916	807,855,433	24,770,296
1917	1,040,671,713	32,329,617
1918	1,223,283,641	61,137,607
1919	898,044,039	49,918,288
1920	685,738,142	38,195,061
1921	861,419,680	59,211,048

Not stated prior to 1914.

Oil, Mineral, Gas Oil and Fuel Oil for Vessels Engaged in Foreign Trade

	Barrels.	Dollars.
1915	2,898,393	2,567,017
1916	4,532,822	4,195,803
1917	5,924,460	6,418,474
1918	5,954,448	8,858,880
1919	8,648,967	17,308,722
1920	19,857,307	43,604,177
1921	28,903,722	72,130,004

Not stated prior to 1915.

Oil, Cocoa Butter

	Pounds.	Dollars.
1920	11,048,416	4,401,482
1921	3,170,617	987,534

Not stated prior to 1920.

Oil, Cocoanut

	Pounds.	Dollars.
1920	141,088,048	28,968,689
1921	6,639,055	886,574

Not stated prior to 1920.

Oil, Corn

	Pounds.	Dollars.
1901	*4,808,545	1,831,980
1913	19,739,622	1,292,009
1914	18,281,576	1,307,204
1915	17,789,635	1,302,159
1916	8,967,826	770,076
1917	8,779,760	998,105
1918	1,831,114	306,219
1919	1,095,414	227,727
1920	12,482,679	2,954,637
1921	6,919,179	1,033,106

* "Gallons."

Oil, Cottonseed

	Pounds.	Dollars.
1871	.....	140,577
*1881	3,444,084	1,465,255
*1891	11,003,160	3,975,305
1901	*49,356,741	16,541,321
1913	315,232,892	20,736,972
1914	192,963,079	13,843,179
1915	318,366,525	21,872,940
1916	266,529,960	22,659,800
1917	158,911,767	19,878,325
1918	100,779,981	18,309,854
1919	178,709,033	36,970,545
1920	159,400,618	36,220,529
1921	283,268,025	31,392,838

* "Gallons."

Oil, Linseed

	Gallons.	Dollars.
1871	37,841	35,962
1881	72,190	48,479
1891	76,789	48,267
1901	99,919	66,653
1913	1,733,925	874,461
1914	239,198	134,540
1915	1,212,133	660,089
1916	714,120	479,230
1917	1,201,554	1,117,895
1918	1,187,850	1,532,307
1919	1,096,304	1,805,291
1920	1,136,585	2,086,292
1921	561,277	719,414

Oil, Peanut

	Pounds.	Dollars.
1920	4,922,781	1,196,831
1921	1,594,643	223,680

Not stated prior to 1920.

Oil, Soya Bean

	Pounds.	Dollars.
1920	67,781,974	14,911,973
1921	5,117,605	760,643

Not stated prior to 1920.

Oil, Peppermint

	Pounds.	Dollars.
1891	45,321	120,831
1901	60,166	63,672
1913	144,663	395,551
1914	117,809	397,050
1915	184,981	384,598
1916	154,096	323,070
1917	100,032	218,627
1918	76,247	233,899
1919	65,548	325,070
1920	90,205	677,605
1921	50,425	286,624

Oils, Vegetable, All Other, Fixed or Expressed

		Dollars.
1891	.....	93,429
1901	.....	363,066
1913	.....	420,360
1914	.....	338,956
1915	.....	1,198,852
1916	.....	2,230,002
1917	.....	3,004,283
1918	.....	3,951,659
1919	.....	18,512,517
1920	.....	3,258,446
1921	.....	1,013,541

Oils, Vegetable, All Other, Volatile or Essential

		Dollars.
1871	.....	119,311
1881	.....	92,738
1891	.....	65,104
1901	.....	169,004
1913	.....	325,040
1914	.....	230,557
1915	.....	413,104
1916	.....	705,037
1917	.....	1,062,809
1918	.....	857,044
1919	.....	1,216,870
1920	.....	1,551,992
1921	.....	890,472

Oleomargarine, Imitation Butter

	Pounds.	Dollars.
1881	26,327,671	3,815,560
1891	1,986,743	255,024
1901	12,990,699	484,501
1913	2,987,582	311,485
1914	2,532,821	263,453
1915	5,252,183	617,035
1916	5,426,221	640,480
1917	5,651,267	901,659
1918	6,309,896	1,631,267
1919	18,576,400	5,179,429
1920	20,952,180	6,047,413
1921	6,219,165	1,478,649

Paints, Dry Colors, Lampblack

		Dollars.
1871	.....	25,980
1881	.....	51,682
1891	.....	.....
1901	.....	.....
1913	.....	505,748
1914	.....	421,548
1915	.....	368,825
1916	.....	521,463
1917	.....	917,303
1918	.....	1,111,265
1919	.....	1,102,767
1920	.....	1,959,208
1921	.....	1,829,987

Paints, Dry Colors, All Other

		Dollars.
1914	.....	690,836
1915	.....	1,072,736
1916	.....	1,591,913
1917	.....	1,810,393
1918	.....	1,907,667
1919	.....	2,808,980
1920	.....	2,991,618
1921	.....	2,170,237

Paints, Ready Mixed

	Gallons.	Dollars.
1914	852,910	1,096,335
1915	703,494	884,700
1916	1,099,721	1,384,226
1917	1,216,062	1,756,393
1918	1,519,472	2,398,332
1919	2,288,632	4,556,192
1920	2,551,531	5,278,390
1921	2,317,630	5,357,696

Paints, Red Lead

	Pounds.	Dollars.
1918	4,792,330	567,854
1919	7,952,730	946,114
1920	3,072,731	348,907
1921	2,046,339	244,151

Not stated prior to 1918.

Paints, White Lead

	Pounds.	Dollars.
1914	16,845,154	1,013,506
1915	19,700,810	1,070,646
1916	29,107,449	1,861,730
1917	21,388,938	1,944,145
1918	18,235,783	2,072,352
1919	20,462,348	2,337,318
1920	34,441,918	3,598,913
1921	17,408,803	1,895,696

Paints, Not Elsewhere Specified

		Dollars.
1871	.....	172,604
1881	.....	287,338
1891	.....	690,698
1901	.....	1,317,961
1914	.....	1,779,863
1915	.....	1,527,494
1916	.....	3,259,539
1917	.....	4,413,549
1918	.....	4,876,312
1919	.....	6,213,430
1920	.....	7,310,876
1921	.....	5,947,461

Paraffin and Paraffin Wax

	Pounds.	Dollars.
1871	37,423	4,758
1881	5,369,821	437,187
1891	66,366,003	3,714,649
1901	129,184,964	6,857,288
1913	290,678,861	9,679,273
1914	186,357,728	6,516,338
1915	330,374,056	10,589,843
1916	360,650,114	12,873,250
1917	348,743,903	16,038,811

Stated as following classes after 1917:—

Paraffin, Unrefined

	Pounds.	Dollars.
1918	82,534,361	4,677,280
1919	53,729,436	4,915,237
1920	79,023,341	5,377,069
1921	50,121,130	2,994,654

Paraffin, Refined

	Pounds.	Dollars.
1918	164,159,159	13,866,810
1919	185,078,571	19,642,149
1920	282,384,250	26,088,672
1921	203,289,734	17,524,258

Paste

		Dollars.
1901	.....	863
1913	.....	69,032
1914	.....	68,831
1915	.....	91,522
1916	.....	298,537
1917	.....	299,585

Included in "Mucilage and Paste" after 1917.

Peanuts

	Pounds.	Dollars.
1915	5,875,076	325,725
1916	8,669,430	450,765
1917	22,413,297	1,336,638
1918	12,488,209	1,517,831
1919	13,596,660	1,475,195
1920	14,137,956	1,740,602
1921	13,149,417	1,063,353

Perfumeries, Cosmetics and All Toilet Preparations

		Dollars.
1871	.....	392,993
1881	.....	292,939
1891	.....	450,663
1901	.....	380,994
1913	.....	1,441,982
1914	.....	1,620,872
1915	.....	1,715,059
1916	.....	2,903,063
1917	.....	3,618,620
1918	.....	3,965,465
1919	.....	6,077,854
1920	.....	7,979,237
1921	.....	6,236,766

Petroleum Jelly

		Dollars.
1913	.....	536,637
1914	.....	661,889
1915	.....	838,842
1916	.....	1,099,315
1917	.....	989,367
1918	.....	1,278,658
1919	.....	2,608,701
1920	.....	3,156,286
1921	.....	2,072,595

Platinum, Unmanufactured

	Ounces, troy.	Dollars.
1913	1,299	57,071
1914	273	12,977
1915	1,397	53,266
1916	1,083	92,388
1917	3,254	207,662
1918	468	50,697
1919	91	10,074
1920	1,640	223,332
1921	3,065	234,804

Platinum, Manufactures of

		Dollars.
1913	.....	126,013
1914	.....	71,172
1915	.....	27,101
1916	.....	82,929
1917	.....	77,265
1918	.....	33,557
1919	.....	30,363
1920	.....	85,364
1921	.....	114,873

Plumbago or Graphite, Unmanufactured

	Pounds.	Dollars.
1881	.....	135
1891	.....	.....
1900	.....	35,908
1913	4,503,569	321,079
1914	5,376,880	387,075
1915	2,324,081	152,446
1916	936,869	46,907
1917	2,500,057	163,333
1918	4,912,730	331,369
1919	1,392,043	102,162
1920	1,306,859	107,552
1921	1,179,228	84,908

Plumbago or Graphite, Manufactures of

		Dollars.
1913	.....	175,583
1914	.....	269,499
1915	.....	368,333
1916	.....	845,729
1917	.....	1,296,305
1918	.....	716,538
1919	.....	862,544
1920	.....	517,188
1921	.....	784,876

Potash, Chlorate

	Pounds.	Dollars.
1918	1,564,662	681,128
1919	1,903,133	678,276
1920	2,845,858	475,034
1921	1,130,771	179,300

Not stated prior to 1918.

Potash, All Other

		Dollars.
1918	.....	961,989
1919	.....	1,318,188
1920	.....	3,362,827
1921	.....	1,309,852

Not stated prior to 1918.

Quicksilver

	Pounds.	Dollars.
1871	994,035	732,845
1881	2,995,948	1,124,955
1891	157,052	88,359
1901	716,559	400,298
1913	40,410	21,885
1914	64,190	32,241
1915	222,927	155,089
1916	232,763	274,086
1917	1,018,094	1,071,325
1918	502,088	679,414
1919	538,325	651,033
1920	330,175	399,263
1921	27,358	25,022

Roots, Herbs, and Barks, Crude, Not Elsewhere Specified

		Dollars.
1901	.....	275,150
1913	.....	424,312
1914	.....	513,071
1915	.....	470,090
1916	.....	768,977
1917	.....	852,256
1918	.....	784,514
1919	.....	1,133,855
1920	.....	1,793,064
1921	.....	836,320

Rosin

	Barrels.	Dollars.
1871	511,959	1,600,651
1881	1,023,710	2,529,423
1891	1,790,251	3,467,199
1901	2,820,815	4,742,457
1913	2,806,046	17,359,145
1914	2,417,950	11,217,316
1915	1,372,316	6,220,321
1916	1,571,279	8,874,313
1917	1,638,590	10,705,972
1918	1,070,929	7,878,718
1919	881,777	11,323,381
1920	1,322,034	24,847,681
1921	877,160	10,364,804

Salt

	Pounds.	Dollars.
1871	7,200,560	47,115
1881	2,739,300	14,752
1891	5,242,280	29,510
1901	14,183,167	67,316
1913	128,035,915	441,673
1914	148,931,265	542,783
1915	165,619,386	616,132
1916	165,637,801	600,648
1917	194,151,456	726,761
1918	267,045,840	1,416,798
1919	242,143,146	1,541,766
1920	257,493,745	1,610,061
1921	242,632,102	1,649,423

Seed, Cotton

	Pounds.	Dollars.
1871	.....	.....
1881	75,693	29,386
1891	10,108,014	3,031
1901	43,329,257	85,315
1913	24,048,647	366,953
1914	16,342,384	328,988
1915	6,314,439	215,115
1916	2,475,907	94,237
1917	1,001,369	37,811
1918	1,565,052	35,454
1919	1,603,795	57,693
1920	3,506,218	65,937
1921	4,811,313	197,450
		246,783

Seed, Flax

	Bushels.	Dollars.
1871	282	721
1881	.....	.....
1891	144,848	184,564
1901	2,755,683	4,319,102
1913	16,894	26,690
1914	305,546	436,874
1915	4,145	9,748
1916	2,614	6,501
1917	1,017	3,671
1918	21,481	98,165
1919	15,574	110,142
1920	24,044	182,796
1921	1,481	4,378

Soap, Toilet or Fancy

		Dollars.
1871	.....	19,954
1881	.....	44,396
1891	.....	86,704
1901	.....	562,514
1913	.....	2,132,663
1914	.....	2,141,633
1915	.....	1,777,342
1916	.....	2,610,481
1917	.....	2,122,674
1918	.....	2,246,258
1919	.....	3,896,179
1920	.....	6,625,259
1921	.....	4,182,428

Soap, Except Toilet or Fancy

	Pounds.	Dollars.
1871	7,786,276	576,026
1881	13,323,737	650,361
1891	25,750,671	1,050,559
1901	28,779,000	1,006,666
1913	51,292,554	2,496,904
1914	58,547,763	2,797,369
1915	63,367,750	3,080,957
1916	75,548,686	3,709,277
1917	73,049,219	4,169,117
1918	82,726,757	6,894,454
1919	143,128,191	13,723,225
1920	155,891,586	16,102,825
1921	83,830,216	8,447,007

Soda, Salts and Preparations of

		Dollars.
1915	.....	3,141,022
1916	.....	12,649,854
1917	.....	18,381,450

Not stated prior to 1915 and subdivided after 1917; see following classes.

Soda, Caustic

	Pounds.	Dollars.
1918	134,729,691	8,629,086
1919	127,192,309	6,382,511
1920	229,146,363	9,321,902
1921	101,021,827	5,478,055

Soda, Bicarbonate of

	Pounds.	Dollars.
1920	*11,998,510	360,601
1921	13,353,769	389,337

*Figures cover period beginning Jan. 1, 1920.

Soda, Borax

	Pounds.	Dollars.
1920	*10,943,110	905,617
1921	4,368,880	385,650

*Figures cover period beginning Jan. 1, 1920.

Soda Ash

	Pounds.	Dollars.
1918	198,752,457	6,074,879
1919	191,864,329	6,261,518
1920	116,555,500	2,804,130
1921	113,481,062	3,308,783

Soda, Sal Soda

	Pounds.	Dollars.
1918	14,076,264	265,489
1919	10,675,870	186,382
1920	12,763,399	202,039
1921	10,376,424	207,539

Soda, Silicate of

	Pounds.	Dollars.
1918	26,125,740	373,822
1919	26,009,043	400,508
1920	33,692,535	420,124
1921	23,099,660	321,972

Soda, Other Salts of

		Dollars.
1918	.....	7,421,521
1919	.....	6,475,158
1920	.....	7,485,008
1921	.....	5,378,899

Spices

		Dollars.
1891	.....	22,440
1901	.....	20,204
1914	.....	84,427
1915	.....	76,297
1916	.....	250,827
1917	.....	287,484
1918	.....	507,712
1919	.....	539,313
1920	.....	607,442
1921	.....	322,524

Sponges

	Pounds.	Dollars.
1871	.....	1,546
1881	.....	6,736
1891	36,966	20,821
1901	63,654	29,554
1913	205,804	177,059
1914	200,470	173,806
1915	117,618	109,635
1916	197,826	165,884
1917	116,131	129,063
1918	130,471	177,210
1919	187,151	212,641
1920	298,021	307,123
1921	110,928	156,163

Starch

	Pounds.	Dollars.
1871	1,761,813	115,698
1881	13,473,419	629,710
1891	12,883,821	475,817
1901	102,800,725	2,005,865
1913	110,987,591	2,609,716
1914	76,713,779	1,825,230
1915	107,036,638	2,930,453
1916	210,185,192	5,576,914
1917	146,423,822	4,721,533

Includes "Cornstarch (except for table use)" prior to 1918; see below.

Starch, Cornstarch, Except for Table Use

	Pounds.	Dollars.
1918	38,659,323	2,220,377
1919	105,726,970	5,333,480
1920	163,314,642	10,238,284
1921	110,514,424	4,251,173

Starch, All Other

	Pounds.	Dollars.
1918	35,223,390	2,282,015
1919	38,061,260	2,197,518
1920	74,293,884	4,675,096
1921	24,850,212	1,146,163

Stearin from Animal Fats

	Pounds.	Dollars.
1871	.....	2,506
1881	1,118,848	87,924
1891	1,347,386	62,194
1915	11,457,907	1,083,665
1916	13,062,247	1,461,661
1917	12,936,357	1,798,317
1918	10,360,030	2,181,317
1919	11,537,284	2,309,979
1920	22,505,608	4,717,748
1921	19,177,311	2,429,414

Stearin, Vegetable

	Pounds.	Dollars.
1917	1,321,773	179,092
1918	1,226,127	248,585
1919	782,467	166,428
1920	5,138,225	962,394
1921	1,716,313	221,958

Not stated prior to 1917.

Sulphur or Brimstone, Crude

	Tons.	Dollars.
1913	73,861	1,353,310
1914	110,022	2,018,724
1915	48,391	885,756
1916	68,460	1,314,290
1917	177,548	3,595,512
1918	140,525	3,842,904
1919	123,891	3,781,388
1920	393,404	8,725,112
1921	375,826	6,543,119

Surgical Appliances (Not Including Instruments).

		Dollars.
1913	.....	973,733
1914	.....	1,228,467
1915	.....	4,418,303
1916	.....	3,166,718
1917	.....	2,999,809
1918	.....	11,293,791
1919	.....	16,948,727
1920	.....	6,317,845
1921	.....	4,544,760

Tallow (Beef Tallow).

	Pounds.	Dollars.
1871	33,859,317	3,025,035
1881	96,403,372	6,800,628
1891	111,689,251	5,501,049
1901	77,166,889	3,848,561
1913	30,586,300	1,910,489
1914	15,812,331	1,002,011
1915	20,239,988	1,386,445
1916	16,288,743	1,326,472
1917	15,209,369	1,800,909
1918	5,014,964	931,941
1919	16,172,111	2,325,177
1920	32,937,026	5,738,181
1921	16,843,868	1,920,376

Tanning Extracts

		Dollars.
1891	.....	241,382
1901	.....	386,238
1913	.....	524,063
1914	.....	639,941
1915	.....	2,226,457
1916	.....	5,902,799
1917	.....	3,908,758
1918	.....	3,864,563
1919	.....	3,254,947
1920	.....	6,016,438
1921	.....	1,732,198

Tar, Turpentine and Pitch

	Barrels.	Dollars.
1871	32,584	93,884
1881	46,582	109,381
1891	25,806	46,274
1901	50,526	123,464
1914	351,352	568,891
1915	239,661	430,612
1916	67,963	291,731
1917	103,397	561,566
1918	82,030	598,211
1919	48,030	384,263
1920	61,790	534,175
1921	41,864	380,267

Tin Pigs, Bars, Etc.

	Pounds.	Dollars.
1917	798,288	427,709
1918	209,391	127,219
1919	488,902	352,483
1920	829,016	500,086
1921	2,564,532	968,354

Not stated prior to 1917.

Tungsten and Ferrotungsten

	Pounds.	Dollars.
1917	1,784,306	3,597,426
1918	2,184,769	4,056,437
1919	177,123	408,148
1920	17,494	57,820
1921	1,600	1,625

Not stated prior to 1917.

Turpentine, Spirits of

	Gallons.	Dollars.
1871	2,453,554	1,009,508
1881	6,595,528	2,414,719
1891	12,243,621	4,668,140
1901	20,240,851	7,715,029
1913	21,039,597	8,794,656
1914	18,900,704	8,095,958
1915	9,464,120	4,476,306
1916	9,310,268	4,337,563
1917	8,841,875	4,313,670
1918	5,095,124	2,695,935
1919	8,063,578	6,069,853
1920	7,461,355	11,121,864
1921	9,741,711	11,279,253

Varnish

	Gallons.	Dollars.
1871	54,454	79,292
1881	87,408	156,617
1891	153,365	208,285
1901	606,187	611,459
1913	1,279,777	1,267,860
1914	1,069,501	1,038,864
1915	731,604	682,352
1916	846,362	838,339
1917	891,812	1,104,698
1918	736,949	1,209,762
1919	1,174,664	2,238,384
1920	1,529,592	2,936,950
1921	1,158,025	2,421,839

Washing Powder and Fluid

	Pounds.	Dollars.
1913	9,923,700	756,762
1914	12,761,958	535,635
1915	14,695,317	635,476
1916	7,875,317	355,926
1917	3,517,441	197,614
1918	4,754,804	243,184
1919	3,984,745	231,786
1920	6,114,816	357,074
1921	4,021,497	267,597

Wax Paper

		Dollars.
1918	.....	155,188
1919	.....	596,887
1920	.....	239,512
1921	.....	345,366

Not stated prior to 1918.

Yeast

		Dollars.
1901	.....	6,809
1917	.....	1,021,651
1918	.....	918,842
1919	.....	1,116,690
1920	.....	868,718
1921	.....	675,203

Zinc Dross

	Pounds.	Dollars.
1901	.....	164,140
1914	572,477	29,084
1915	10,361,840	557,247
1916	2,526,288	164,649
1917	10,692,766	886,017
1918	31,104,163	2,283,843
1919	28,500,333	1,929,545
1920	4,097,465	269,997
1921	1,095,186	60,293

Zinc, Oxide of

	Pounds.	Dollars.
1871	1,082,362	48,292
1881	1,281,375	16,405
1891	8,172,000	142,011
1901	9,456,057	412,719
1914	29,197,790	1,215,360
1915	37,580,411	1,808,970
1916	31,222,228	1,960,589
1917	31,486,877	3,096,019
1918	25,362,063	2,750,619
1919	26,051,535	3,024,198
1920	30,925,243	2,895,933
1921	10,149,360	1,016,784

Historical Sketches of Firms in the Reporter Trades That Can Boast of an Existence of Fifty Years and Longer

ADOLPH HIRSH & SON
New York

From Chicago to Jersey City came in 1871 a young man to take charge of the blood albumen factory of Stein, Hirsh & Co., in which he had a third interest. The Jersey City plant was a branch of the one at Chicago, the latter having been established in 1867. The young man was Adolph Hirsh. The Jersey City branch throve for a while, some of its output selling for as high as 97½ cents a pound, which so stimulated Mr. Hirsh that he held on to his goods when prices began to drop. For an accumulation of about 30,000 pounds he refused an offer of 50 cents a pound for the lot, and the following year was glad to sell it in parcels of two to five cases at 15 to 15½ cents a pound. There was deflation after the Civil War as well as after the World War.

Mr. Hirsh began his own brokerage business at 18 Liberty street, New York, in 1873. In 1878 James E. Heller joined him to form the firm of Heller, Hirsh & Co. They later moved to 164 Front street, and then to 62 William street. As a result of complications abroad involving concerns represented in this country by Heller, Hirsh & Co., that firm failed in 1915. The present house is composed of Adolph Hirsh and his son, Herbert S. Hirsh. It does business in fertilizer materials, chemicals and fish oils at 50-56 John street.

E. H. HAINES
Chicago, Ill.

Leaving Kingston, Canada, in 1869, E. H. Haines, 21 years old, proceeded to Chicago on a sailing vessel. After the memorable fire of 1871 he saw his opportunity to grow up with the new city, so established himself as a manufacturers' agent. He was ready for business January 1, 1872. Being tied down to no one house, he was a friend of all—a free lance, as he expressed it. This position enabled him to do many services for a then unorganized trade. He was proud of a gold watch and chain given to him by the heads of various paint houses for his efforts in bringing about the practice of charging for boxing and cartage. Even more than this token he cherished as a treasure a French clock and obelisk presented to him in 1883 by employes of wholesale paint and drug houses for instituting two o'clock closing on Saturday afternoons in summer. Doubtless many leading men in these trades will recall that as employes they contributed 25 cents to the fund to defray the expenses of the Saturday Holiday Campaign. Mr. Haines enjoyed the confidence of the employer and employe alike.

During the life of the United States Smelting Co., of Canon City, Colo., Mr. Haines was its sole agent for the United States and Canada, and as such introduced leaded zinc, or zinc lead, which was received as a new opaque pigment; its composition being approximately 50 per cent. of zinc oxide and 50 per cent. lead sulphate. It was not at first looked upon with favor, principally due to its "off" color. Through patience and perseverance on the part of the distributor of the product, it was tried by a number of manufacturers, in a limited way, in tinted paints and now has largely displaced white lead and zinc oxide as base pigments.

Mr. Haines personally conducted his business for forty-five years; since his demise it has been continued by his widow who, with the old staff of employes and some new ones, is located in the Ashland block, where the offices have been for thirty years.

After fifty years the house of Haines still numbers among its customers two whom it has represented from the beginning, namely, the Prince Manufacturing Co., and the L. Martin Co.

In 1918 the E. H. Haines Distributing Co. was incorporated. It owns its property at 107 West Thirty-first street, Chicago, and does a storage business for the convenience of the trade and for the better handling of the paints, varnishes and soaps which its proprietor distributes.

H. A. METZ & CO., INC.
New York

In 1860 the foundation of the present business of H. A. Metz & Co., of New York, was laid by the firm of Rumpf & Lutz. Mr. Rumpf had been in the leather business and with Louis Lutz went into the dyestuff business, handling at that time foreign goods.

When, some years later, Mr. Rumpf retired from the firm and went to Europe, Joseph Movius succeeded him, and the business was continued by Lutz & Movius who, in the seventies, introduced antipyrin to America. Upon the death of Mr. Lutz Mr. Movius took his son, August Movius, into partnership under the style of J. Movius & Son.

Paul Schulze-Berge, who for many years had been connected with the original firm of William Pickhardt & Kuttroff, started in business for himself in 1880. In 1881 Herman A. Metz entered his employ as an office boy at the age of fourteen. On January 1, 1883, Victor Koechl, who had been for eighteen years manager of Lutz & Movius, joined Mr. Schulze-Berge, and the firm became Schulze-Berge & Koechl.

In 1892 a consolidation of the firms of J. Movius & Son and Schulze-Berge & Koechl was brought about under the name of Schulze-Berge, Koechl & Movius, and Joseph Movius retired. After a year August Movius withdrew on account of ill health, and a few months later Mr. Schulze-Berge also retired. Victor Koechl continued under the old name until 1896, when the concern was incorporated under the name of Victor Koechl & Co., with Mr. Koechl as president and H. A. Metz as vice-president and treasurer.

In 1899 Mr. Koechl retired, Mr. Metz becoming president. The corporate name was retained until 1903, when the dyestuff part of the business was incorporated as H. A. Metz & Co., the pharmaceutical department being continued by Victor Koechl & Co. These corporations were consolidated in August, 1912, as the Farbwerke-Hoechst Co.

In 1913 H. A. Metz & Co., Inc., was organized to take over the dyestuff business and the H. A. Metz Laboratories, Inc., took up the pharmaceutical line and became the manufacturers in this country of products which theretofore had been imported.

The Central Dyestuff & Chemical Co. was organized in 1893. In 1915 Herman A. Metz became financially interested in it and was elected its vice-president and treasurer. The Consolidated Color & Chemical Co., organized in 1899, is another concern allied with the Metz interests.

JOHN T. LEWIS & BROS. CO.
Philadelphia

Samuel Neave arrived at Philadelphia from England in 1732, and engaged in a shipping and general merchandise business. He probably established a branch in Philadelphia of the firm of Neave & Co., of London. An old ledger still in existence bearing the above data, contains his name as well as an account of Benjamin Franklin, dated 1753. The business passed into the hands of Neave & Harman, and about 1771 Mordecai Lewis, the grandfather of John T. Lewis, was taken into partnership, the firm becoming Neave, Harman & Lewis.

In 1771-72 Mr. Lewis paid a visit to England, Ireland and Scotland, and it is recorded that as a merchant of Philadelphia, he received the freedom of the City of Glasgow on March 13, 1772.

Mordecai Lewis & Co. succeeded to the business about 1781, and correspondence during that period shows the difficulty of carrying on an importing business while British men-of-war were blockading the Atlantic Coast.

On January 16, 1782, Mordecai Lewis & Co. opened an account in the Bank of North America, which had been chartered by Congress nine days before. This account has run continuously to the present time, and is believed to be the oldest bank account in the United States. In 1820 they secured possession of the lead works of Joseph and John Richards, situated on Pine street, between Fifteenth and Sixteenth streets, Philadelphia, and commenced actively the manufacture of lead products. Shortly afterwards they undertook the manufacture of linseed oil for use in the manufacture of their white lead. In 1849 the factory was removed to Thompson and Huntington streets, Philadelphia, the site of the present works.

In 1806 the sons of Mordecai Lewis formed a partnership under the name of M. & S. N. Lewis, who subsequently acted as selling agents for white lead and other products, while the manufacturing was carried on under the original firm title of Mordecai Lewis & Co. Both of these concerns were liquidated by John T. Lewis, August 1, 1856, and were succeeded by the firm of John T. Lewis & Bros., the business becoming incorporated under the title of John T. Lewis & Bros. Co., September 4, 1888.

M. & S. N. Lewis occupied the premises at 231 (formerly 135) South Front street from the year 1806, and it was continuously occupied by them or their successors until January 30, 1909, when the business offices were removed to the northeast corner of Fifth and Chestnut streets, Philadelphia.

In 1911 the company entered the metal field, acquiring a factory in Baltimore, where the business is transacted.

The present officers of the company are:—President, Edward F. Beale; vice-president and treasurer, Woodruff Jones; secretary, Leonard T. Beale.

HUMPHREYS HOMEOPATHIC MEDICINE CO.
New York

Dr. Frederick Humphreys founded the Humphreys Home Need Co., of New York, in 1854, and in 1865 it was incorporated as the Humphreys Specific Homeopathic Medicine Co., with an office at 562 Broadway. In 1887 the office was moved to 109 Fulton street.

In 1886 the company was reincorporated under its present name. In 1890 the company moved to the corner of John and William streets, and in 1908 purchased its present location at the corner of William and Ann streets.

The business was originated by Dr. Frederick Humphreys as an outgrowth of his regular practice as a physician. The present company was incorporated by Dr. Humphreys and his two sons, F. H. Humphreys and F. L. Humphreys.

Dr. Humphreys died in 1900 and was succeeded as president of the company by his eldest son, F. H. Humphreys, upon whose death in 1919 Dr. F. L. Humphreys became head of the concern.

JAMES H. TAFT & CO.
New York

Charles R. Degen began business in 1824 as a drug broker with an office on Fletcher street, New York, and shortly afterwards became a selling agent of Farr, Powers & Weightman. James H. Taft went to work for Mr. Degen as a clerk about 1836, and in 1850 became the junior member of Charles R. Degen & Co.

As the firm's business increased its office was moved—first to Maiden Lane, then to Beaver street and later to William street.

In 1853 the style of the house became Degen & Taft, and in 1863 Stephen G. Lee, who had been a clerk with the concern for several years, was admitted into partnership, when the name Degen, Taft & Lee was adopted. In 1867 Mr. Degen retired and James C. McGee and Livingston Rowe were admitted to the firm, which therefore changed its name to Taft, Lee & Co. After a few years Messrs. McGee and Rowe withdrew from the business and Herbert H. Hogins, James H. Taft, Jr., and Alfred C. Mintram were admitted to partnership, under the old firm name. Shortly after the death of Mr. Lee, Charles H. Weekes and Charles H. Taft were added to the firm, the name of which then, in 1882, became Taft, Hogins & Co. In 1889, upon the withdrawal of Messrs. Hogins and Weekes, the present firm name, James H. Taft & Co., was adopted.

James H. Taft retired about 1903, and Mr. Mintram about ten years later. The business is still carried on at 100 William street, in which building the firm has been located for the past twenty-three years.

WELCH, HOLME & CLARK CO.
New York

The history of Welch, Holme & Clark Co. dates back to 1838, when its business was established by Oliver Loveland, who conducted it for twenty years under the style of O. Loveland, Son & Co. He dealt mostly in lime, cement and building materials in a comparatively small way. In 1858 the firm became Loveland & Welch. The senior partner retired in 1867 and the style of the firm was changed to P. A. Welch & Co., W. H. Holme and M. E. Clark becoming partners. Three years later, one year before the Reporter was established, William Holme joined the firm, the name of which was changed to Welch, Holme & Clark, the older members retaining their interest.

In 1888 A. M. Sherrill was admitted as a partner in the firm, and in 1892 bought the interest of P. A. Welch and incorporated the Welch, Holme & Clark Co.

The present officers of the company are:—President and treasurer, A. M. Sherrill; vice-president, Howard W. Sherrill (son of the president); secretary, M. E. Clark; assistant treasurer, Edward J. Welcke.

The directors are:—A. M. Sherrill, Howard W. Sherrill, M. Ernest Clark, E. J. Welcke, Elias D. Stults and J. H. Vermilyea.

H. W. HENNING & SON
New York

The firm of H. W. Henning & Son was established in 1857 by Henry W. Henning, broker in drugs and chemicals. In 1872 Emil F. Henning, son of the founder, was admitted to the firm, and its name was changed to H. W. Henning & Son, by which it has since been known. In June, 1920, Emil F. Henning died, since which time the business has been continued by V. P. McManus, who was formerly connected with McKesson & Robbins for over twenty-six years.

PECORA PAINT CO.
Philadelphia, Pa.

The Pecora Paint Co. was established by Smith Bowen in 1862 at 148½ North Fourth street, Philadelphia, where a full line of ready-mixed paints and colors and paste paints were manufactured.

Mr. Bowen was contemporary with John Lucas, Samuel Felton, C. Schrack & Co., and Robert Shoemaker & Co., all of whom were friendly and helpful competitors.

From 1862 to 1866 there was a hard struggle for this as well as for many other concerns, and on May 29 of the latter year, the company was incorporated as the Pecora White Lead Zinc & Color Co., with C. W. Oldenbergh, president, and Smith Bowen, secretary-treasurer.

In September, 1872, Samuel B. Bowen, son of the founder, took his position in the factory as an apprentice and has continued in the service of the company for fifty years, now being its president. In 1878 John B. Bowen, a younger son, joined the concern. He, too, began at the bottom and worked up.

In 1880 the business was conducted by Smith Bowen as owner and proprietor; Samuel B. Bowen as general sales-manager; John B. Bowen as factory superintendent, and John C. Lindsay in charge of the office. The style of the firm was Pecora Paint Co., Smith Bowen, Successor.

Smith Bowen died in 1886 and his two sons succeeded him, the style of the firm becoming Pecora Paint Co., S. Bowen's Sons, Successors. At that time John C. Lindsay was acting secretary-treasurer.

In 1890 the business outgrew its quarters on Fourth street and a large factory was built at North Penn Junction with railroad sidings on the premises.

In 1904 and 1910, respectively, Samuel B. Bowen, Jr., and Laurance Bowen, sons of Samuel B. Bowen, became members of the company.

In 1911 Samuel B. Bowen decided to make the firm a $250,000 stock corporation, and distributed stock to a number of employes to be paid out of dividends. The company then became the Pecora Paint Co., Inc., with S. B. Bowen, president; S. B. Bowen, Jr., vice-president, and John C. Lindsay secretary-treasurer.

On January 1, 1922, the officers and stockholders (with the number of years each had been with the concern) were:—President, Samuel B. Bowen (50 years); vice-president, Samuel B. Bowen, Jr. (18 years); secretary, John H. Johnson (21 years); treasurer, John J. Schisselbauer (20 years); other stockholders, Laurance Bowen (12 years); William H. Evans (19 years), William P. Werner (17 years), and Francis G. Pate (23 years).

McKESSON & ROBBINS, INC.
New York

When the Oil, Paint & Drug Reporter came into being fifty years ago the house of McKesson & Robbins, New York, was entering upon its thirty-eighth year as a leading factor in the drug and chemical industry of the United States. From a small beginning in the year 1833, when Charles M. Olcott and John McKesson organized the business at 145 Maiden Lane, this house has grown to be one of the largest in its field, the products of its laboratories today going to all parts of the world.

The firm of Olcott & McKesson began by purchasing the stock, fixtures and lease of the storehouse at 145 Maiden Lane from W. H. Levy, who was retiring from the jobbing business. Daniel C. Robbins, who later became a member of the firm, was engaged as a clerk.

In 1835 the firm purchased the entire stock and business of William N. Clark & Co., taking in the junior partner, Philip Schieffelin, and changing the firm name to Olcott, McKesson & Co. This partnership continued until January, 1841, when Mr. Schieffelin withdrew. Meanwhile the firm's business had outgrown the limits of 145 Maiden Lane, so in 1842 a building was purchased at 127 Maiden Lane and the business removed thereto. Daniel C. Robbins was taken into partnership in 1850, and the firm became Olcott, McKesson & Robbins.

In 1853 Mr. Olcott died, and the firm name was changed to McKesson & Robbins. In 1855 the present building at 91 and 93 Fulton street was erected, and some years later new buildings at 95 and 97 Fulton street, running through to Ann street in the rear, were added. Additional warehouses in Ann and Beekman streets were acquired, and new factories built to provide for the firm's ever-increasing business.

In their day and generation John McKesson and Daniel C. Robbins were leading lights of the drug trade, and by their ability and enterprise raised their house to a position of great prominence and prosperity. They are said to have been the first to establish a manufacturing department as a distinct feature of the wholesale drug business, jobbing houses generally now having such a department.

The business of McKesson & Robbins, which for years had been conducted as a co-partnership, was in 1916 changed to a corporation, the present personnel being as follows:—Directors; John McKesson, Jr., president; Saunders Norvell, chairman of the Board; Herbert D. Robbins, and G. C. McKesson, vice-presidents; Irving McKesson, treasurer; Donald McKesson, secretary, and Francis J. McDonough.

COFFIN-REDINGTON CO.
San Francisco

Coffin-Redington Co., a pioneer wholesale drug firm of the Pacific Coast, was founded in 1850 by John H. Redington, of Waterville, Me. At that time San Francisco was a city of 8,000 people, and there were few then sanguine enough to prophesy that in 1920 the city would boast over half a million population.

After two successive fires with severe losses—for it was not possible to get insurance at San Francisco in those days—the firm was reorganized and established in business on the corner of Montgomery and Clay streets, then the heart of San Francisco's wholesale section. In 1851 a new building was erected at Sansome and Merchant streets. From that date the house of Redington has enjoyed continued prosperity.

In 1870 I. S. Coffin, of New York, was admitted to partnership and became head of the New York office. John H. Redington retired from active participation in the business in 1885 and died five years later. William P. Redington, a cousin of the founder, whose experience since 1863 as an active worker in the organization equipped him well for the position, was made vice-president and manager in 1875.

Following the disastrous earthquake and fire which destroyed San Francisco in 1906, the business was incorporated and the following officers named:—C. W. Smith, a member of the firm for many years, was made president, and William P. Redington and I. S. Coffin, vice-presidents. William P. Redington continued in office as vice-president and manager to the time of his death in 1919, when John D. Ryan, who had been sales manager for twenty-three years, took his position.

A five-story stone and concrete building, with a total floor space of 112,000 square feet, at the corner of Mission street and Fremont avenue, is now under construction for the company.

PHILADELPHIA QUARTZ CO.,
Philadelphia

July 21, 1831, Joseph Elkinton, grandfather of William T. Elkinton, now president of the Philadelphia Quartz Co., opened books as a soap and candle maker, with a capital of $1,697.33¾. He was then thirty-seven years old, had been originally trained as a silversmith, and had spent his early manhood in missionary work among the Indians of New York State. The modest business prospered, and by the end of 1834 showed a net gain of $1,320.98¾.

In 1857 Joseph Elkinton was joined by his older son, Joseph S. Elkinton, then twenty-seven years of age, and in 1859 by his younger son, Thomas Elkinton, then twenty-three years of age. Between these dates the firm name was changed from Joseph Elkinton to Joseph Elkinton & Son, then to Joseph Elkinton & Sons. When the father retired at the close of 1861 the firm name became Joseph S. & Thomas Elkinton, which it remained until the incorporation of the firm in 1904.

During the Civil War, when fats were scarce and high, sodium silicate was largely used in the manufacture of soap. In 1864 a partnership, known as the Philadelphia Quartz Co., was formed by John Greason, Jr.; Samuel Booth, Joseph S. Elkinton and Thomas Elkinton, which engaged in the manufacture of sodium silicate. In 1868 Greason and Samuel Booth sold their respective interests to the Elkintons, who continued to operate their silicate business as the Philadelphia Quartz Co., under which name the firm was incorporated in 1904.

The main office of the company is now at 121 South Third street, Philadelphia, and the plants are at Chester, Pa.; Rahway, N. J.; Gardenville, N. Y.; Anderson, Ind., and Kansas City, Kans. An associated company is the Philadelphia Quartz Co. of California, with office at Sixth and Grayson streets, Berkeley, Cal.

The officers of the Philadelphia Quartz Co. are:—William T. Elkinton, president; A. C. Elkinton, first vice-president; Thomas W. Elkinton, second vice-president; F. A. Evans, treasurer, and James G. Vail, secretary.

Of late years sodium silicate has assumed a new importance as an adhesive. It is largely used in the manufacture of paper shipping containers.

B. F. QUACKENBUSH,
New York

One-hundred and five years ago the wholesale and retail drug business of B. F. Quackenbush, 703 Greenwich street, New York, was established in Greenwich by Benjamin Quackenbush, grandfather of the present owner. It has been conducted by the same family ever since. In 1817 New York had not grown up to Greenwich, so that while the store has been in the same block during its entire existence, it has not been in the same city.

The present owner of the Quackenbush business has been in the establishment, man and boy, for about fifty-two years. He became his grandfather's partner in 1884, and sole owner at the death of the founder, at the age of eighty-nine, in 1887. The original store was at Greenwich and Amos (West Tenth) streets, and contained goods valued at $100. Its rent was $40 a month, and its sales amounted to about $2 a day. The site of the present store was purchased by Mr. Quackenbush in 1829 for $1,400, and the building now standing on it was erected by him.

During the lifetime of the founder of the business he had as partners his sons Samuel and David, and his son-in-law, John K. Kendall, but these withdrew from the business which, in 1875, was again conducted by Benjamin Quackenbush alone, he then being in his seventy-eighth year.

VAN VLEET-MANSFIELD DRUG CO.,
Memphis, Tenn.

More than three-quarters of a century ago Mansfield & Higbee entered the retail drug business at Memphis. In 1877 Peter Percy Van Vleet, then a retail drug clerk with a vision, entered the firm of G. W. Jones & Co., wholesale and retail druggists, at that city. From these two enterprises grew the establishment now under notice.

In 1885 Mr. Van Vleet retired from the firm of G. W. Jones & Co., and with C. F. Shepherd and F. A. Hessig began a strictly wholesale business under the name of Van Vleet & Co.

About 1890 the Mansfield Drug Co., which then occupied a building at Main and McCall streets, Memphis, suffered a serious loss by fire. This company purchased the stock of G. W. Jones & Co., at the corner of Front and Gayoso streets, and continued at that place until the latter part of 1894, when it moved to one of the buildings which have been occupied for the past few years by the Van Vleet-Mansfield Drug Co. In 1895 P. P. Van Vleet died and the remaining members of his old firm bought the Mansfield Durg Co., and the existing house, the Van Vleet-Mansfield Drug Co., came into being.

In 1892 R. W. Ramsey had entered the business of Van Vleet & Co. He was followed a year later by his brother, J. B. Ramsey. Both died in 1918. W. G. Best was added to the staff in 1893. At the time of the consolidation J. M. Wood and J. R. Tague came into the business, Mr. Wood becoming manager. Mr. Tague succeeded Mr. Wood on the latter's death, and on Mr. Tague's death, in 1916, Mr. Best became manager, and is now vice-president as well. In 1901 Mr. Hessig retired from the firm and Mr. Shepherd, who died last year, succeeded him as vice-president. McKay Van Vleet is now president, and C. C. Jones secretary and treasurer of the company.

KUTTROFF, PICKHARDT & CO., INC.
New York

Kuttroff, Pickhardt & Co., Inc., 128 Duane street, New York, is a New York corporation organized in October, 1917. Adolf Kuttroff is its president, and Carl Pickhardt its vice-president.

In 1871 the firm of William Pickhardt & Kuttroff commenced business in New York, and continued for twenty-nine years importing and dealing in dyes, dyestuffs and chemicals. In 1900 a New York corporation was organized under the name Kuttroff, Pickhardt & Co. In 1907 a New York corporation was organized under the name of Badische Co., and continued until 1917, when that corporation was dissolved and the present one formed.

Adolf Kuttroff, a member of the old firm of William Pickhardt & Kuttroff, was president of Kuttroff, Pickhardt & Co. (since dissolved), and president of the Badische Co. Carl Pickhardt was vice-president of Kuttroff, Pickhardt & Co., and of the Badische Co.

WHITELAW BROTHERS CHEMICAL CO.
St. Louis and Kansas City

Hiram Johnson and George P. Whitelaw started in business together at St. Louis in 1853 as H. Johnson & Co. When Mr. Johnson withdrew seven years later the junior partner continued the business under his own name. In the earlier days the business was manufacturing varnishes and handling paints and oils. By degrees it drifted into chemicals and now it consists solely of distributing in its territory the products of some of the largest chemical manufacturers, such as the Solvay Process Co., the Semet-Solvay Co., the General Chemical Co., the Stauffer Chemical Co., the Huron Milling Co., P. W. Drackett & Sons, the Nichols Copper Co., the Philadelphia Quartz Co., the Battelle & Renwick Co., the Pennsylvania Salt Manufacturing Co., the Victor Chemical Works, the Church & Dwight Co., and the Pacific Coast Borax Co. The company has nine salesmen, most of whom are trained in industrial chemistry, as it is one of its purposes to furnish technical service as well as goods.

After the Civil War Mr. Whitelaw took from the East his nephews, Oscar L. and Robert H. Whitelaw, and also a young man named Charles W. Barstow, who went into partnership with him, and from 1866 to 1873 the firm was known as George P. Whitelaw & Co., and did business at 617 North Second street, St. Louis. In 1873 George P. Whitelaw withdrew, and the firm name was changed to Barstow & Whitelaw. At the end of 1885 Mr. Barstow left the house and went into business for himself, and the partnership was known as Whitelaw Brothers. Upon the death of Robert H. Whitelaw in December, 1914, plans were made for an incorporation of the business as the Whitelaw Brothers Chemical Co., which took place in January, 1915, with Oscar L. Whitelaw as president. In 1916 the company moved to 316 South Commercial street, St. Louis. In February, 1917, Oscar L. Whitelaw died, and was succeeded as president by Ralph T. Whitelaw, son of Robert H. Other officers of the company are Hamilton D. Whitelaw, son of Oscar L., vice-president, and R. Malcolm Whitelaw, another son of Robert H., secretary-treasurer.

In September, 1921, the Kansas City branch of the company was opened.

Oscar L. Whitelaw was one of the prime movers in the organization of the National Paint Oil and Varnish Association, and one of its earliest presidents. Robert H. Whitelaw was at one time a vice-president of the association.

EASTERN DRUG CO.
Boston, Mass.

The history of the Eastern Drug Co., 14 Fulton street, Boston, dates back to 1826, when the business was founded by Lowe & Reed. Abraham T. Lowe was the uncle of the three Cutler brothers, who at a later date became partners. In the year 1840 Mr. Lowe retired, and Mr. Wing and William J. Cutler as junior partners entered the firm, adopting the name Reed, Wing & Cutler. This arrangement continued for five years, when Mr. Wing withdrew, and the name was changed to Reed & Cutler. Seven years later George Cutler and E. Waldo Cutler became members of the firm, which once more changed in name to Reed, Cutler & Co. About the year 1852 the firm opened a branch in this city, but in 1870 interests were divided, Thomas Reed, son of Sampson Reed, taking the New York business, and the three brothers the Boston store under the firm name Cutler Bros. & Co. In 1888 Charles F. Cutler was admitted to partnership, and no further changes occurred until 1900, when a corporation was formed to combine the businesses of Cutler Bros. & Co., George C. Goodwin & Co. and West & Jenney. This corporation is the Eastern Drug Co. The business of the Rust & Richardson Drug Co. was purchased at that time. Of the original incorporators three have died, Mr. Goodwin, Mr. Kellogg and Mr. West. At present the corporation has the following directors: — President, Charles F. Cutler; vice-president, William W. Cutler; secretary, Sewall Cutler, and treasurer, Bernard Jenney.

C. S. LITTELL & CO., INC.
New York

This, in brief, is the story of the wholesale drug house of C. S. Littell & Co., Inc., 228-230 Fulton street, New York, and its predecessors.

About 1849 Bush & Hillyer established themselves in business, and in 1852 were succeeded by Bush & Gale. About 1856 the firm name became Bush, Gale & Robinson. In 1860 the firm was composed of John B. Gale and Russell W. Robinson, and was known as Gale & Robinson. In 1870 the name was changed to R. W. Robinson & Son, the junior member being Frederich W. Robinson.

Upon the death of R. W. Robinson in 1884 David W. Kent and Charles S. Littell were admitted to partnership, the firm name remaining R. W. Robinson & Son. This co-partnership continued until 1904, when a stock company was formed under the style of R. W. Robinson & Son Co., with F. M. Robinson, as president; C. S. Littell, vice-president; E. S. Coy, secretary, and William R. Robinson, treasurer. These, with D. W. Kent, George Thompson and Theo. W. Day forming the Board of Directors.

May 1, 1906, C. S. Littell, George Thompson and Theo. W. Day withdrew from the company, organized the firm of C. S. Littell & Co., and acquired one of the buildings (228 Fulton street) and part of the business of the Robinson Co. The latter went out of existence two years later.

Mr. Thompson died November 15, 1917, his interest being acquired by the surviving partners, Messrs. Littell and Day. The business continued under the style of C. S. Littell & Co. until April 16, 1921, when it was incorporated with Charles S. Littell as president; Theo. W. Day, vice-president; Jean E. Speckel, secretary, and Gustave T. Speckel, treasurer.

The original buildings occupied were 182, 184 and 186 Greenwich street. When Greenwich street was widened, about 1890, the building at 182 and 184 was taken away entirely, as well as part of 186. It was then that 228 Fulton street, around the corner, was acquired and connected at the rear with 186 Greenwich street.

EATON-CLARK CO.,
Detroit, Mich.

Even before 1838, the year which the Eaton-Clark Co. claims its business was established, Riley & Ackerly, of Detroit, had been succeeded by David A. McNair in the chemical business. Theodore Horatio Eaton became the successor of Mr. McNair in the year mentioned. Mr. Eaton was born at New Brunswick, N. J., in 1815, and before making the Detroit venture had been a memoer of the chemical house of William Williams & Co., of Buffalo. This company was dissolved in 1842 (the year Theodore H. Eaton, Jr., was born), and Mr. Eaton, Sr., moved, with his family, to Detroit. In 1866, the junior then being 24 years old, was admitted to partnership with his father. The firm name was Theo. H. Eaton & Son, and it became widely and favorably known in the chemical and dye industries.

The senior Eaton died in 1888, just fifty years after founding the business, and the junior took sole charge. He remained the active manager of the affairs of the concern until various other interests made such inroads on his time that he appointed Benjamin F. Geiger to look after this one. Geiger died in 1905, when Rufus W. Clark, a nephew of the owner, who had been associated with the business since 1899, became manager.

The son followed the father to the Great Beyond in 1910, and the next year the Eaton-Clark Co. was incorporated, with these officers and directors:—President and treasurer, Rufus W. Clark; vice-president, E. W. Eaton, and Secretary, Robert T. Gray. Some years later Mr. Gray was succeeded as secretary by Richard C. Hedke. No further change was made in the official staff of the company until February 20, 1920, when Mr. Clark resigned the presidency and became chairman of the Board of Directors, and these officers were elected:—President, Berrian C. Eaton (a grandson of the founder, and an employe since 1915); vice-president, Richard C. Hedke (who is also general manager); secretary, Frank E. Kuenzel, and treasurer, William O. Emory. Messrs. Eaton and Hedke serve with Mr. Clark as directors. Bruno Poehle, manager of the dye department, has been with the concern over a third of a century; he is a stockholder.

From the original location of the company in 1838, it was moved after the extensive fire of that same year further down Jefferson avenue to the Cooper Block, and in 1842 on to Woodward avenue, at the corner of Atwater street, one block from the Detroit River. Here the original store still stands, and together with the adjacent building purchased twenty years ago, continues to be the office of the company. The two warehouses owned by the company are located on Franklin street and at Windsor, Ont.

BERRY BROTHERS, INC.,
Detroit, Mich.

Among the great industries of the great industrial city of Detroit is the house of Berry Brothers, which is said to be one of the largest varnish manufacturing concerns in the world.

This firm rose from the most humble origin, the business having been established in 1858 by Joseph H. and Thomas Berry on an extremely modest scale. The infant industry speedily grew into lusty manhood, however, and has kept on growing until it now requires for its occupancy a mammoth factory.

Berry Brothers early in their business career introduced from time to time varnish specialties that carry their name all over the world. Their present plant consists of factories at Detroit and Walkerville, Ont., and branch offices and warehouses at New York, Boston, Philadelphia, Baltimore, Chicago, Cincinnati, St. Louis, San Francisco, Pittsburgh, Minneapolis, Denver, Dallas, and Columbus, in the United States, and Toronto, Winnipeg, Halifax and Calgary, in Canada. Overseas ramifications embrace representatives and branch offices in Europe, Africa, China, Australia, Mexico, Cuba and South America.

The founders of the house, Joseph H. and Thomas Berry, passed away some years ago, the present official personnel of the house being F. L. Colby, president; E. W. Pendleton and Harold H. Emmons, vice-presidents; John C. Witherspoon, secretary, and W. R. Carnegie, treasurer and general manager.

HERMAN WOLF & CO.,
Cincinnati, Ohio

Under one name or another the varnish business now conducted by Herman Wolf & Co., of Cincinnati, Ohio, has been in existence for over sixty-five years. It was established July 25, 1857, by B. Rattermann and J. H. Gibbe, under the name of Rattermann, Gibbe & Co. Their first office was at 125 West Liberty street, and their factory at Spring Grove avenue, near Marshall avenue.

In 1865 the old firm dissolved and J. H. Noewer and George Helmig joined Mr. Gibbe under the style of Noewer, Gibbe & Helmig, and continued the business. Four years later Herman Wolf succeeded Mr. Noewer, when the firm name became Wolf, Gibbe & Helmig, and the office was moved to 214 (then 174) West Liberty street. Upon the retirement of Mr. Helmig in 1873 Wolf & Gibbe were in charge. Until the retirement of the junior member, in 1879, Mr. Wolf, under the name of Herman Wolf & Co., "went it alone" until his death in 1903. In the meantime, that is to say in 1882, the manufacturing end of the business was moved to its present location, 1219 to 1223 Worth street, where it was joined in 1903 by the executive end. This latter move was made about the time that Mr. Wolf sold the business to John and Henry G. Wolf, sons of Herman.

From this brief outline sketch it will be seen that the business has been wholly in the Wolf family for forty-three years, and for three years more than half a century at least nearly in that family.

PARSONS & PETIT
New York

Parsons & Petit, New York, began business January 1, 1857. The partners were William Barclay Parsons, who had been a clerk with William E. Seymour, a drug broker, who started business previous to 1840, and John J. Petit. In 1852, Mr. Seymour and Mr. Parsons had formed a copartnership, under the style of William E. Seymour & Co., with offices in the old Tontine Building, at 86 Wall street.

Mr. Petit had been employed by Benjamin H. Field & Co., and later with Seymour & Lefferts, also drug brokers, the Seymour of this firm being a brother of William E. Seymour. After the death of Mr. Lefferts, in 1852, the firm of Seymour & Petit was formed, the partners being Charles H. Seymour and John J. Petit.

William E. Seymour died in December, 1854. In January, 1855, Charles H. Seymour, William Barclay Parsons and John J. Petit formed the firm of Charles H. Seymour & Co., which was succeeded after the death of Charles H. Seymour by the firm of Parsons & Petit.

In 1859, Edward Petit, a brother of John J. Petit, who had been employed by Battelle & Renwick, was admitted to the firm, and in 1878, Schuyler L. Parsons, a son of William Barclay Parsons, was admitted. John J. Petit died in 1886, William Barclay Parsons in 1887, and Edward Petit in 1889.

In 1898, Alfred W. Jenkins, who had been in the employ of the firm since 1877, was admitted, and in 1907, William A. Stopford, an employe since 1885, became a partner. Schuyler L. Parsons died in 1917, and in 1920, his son, Schuyler L. Parsons, Jr., was admitted. The present firm consists of Alfred W. Jenkins, William A. Stopford and Schuyler L. Parsons.

During the whole of its existence, the firm has been located within three or four blocks of its present offices, which are in the Farmers Loan and Trust Co.'s Building, 63 Beaver street, and 18 to 22 Exchange place. It does a business as merchandise brokers, making a specialty of heavy chemicals. In past years they handled indigo, opium and quinine on a large scale and were for a long time reputed to be the largest importers in this country of Sicilian sulphur, and later became the selling agents for the domestic producers.

YORK CHEMICAL WORKS
York, Pa.

The York Chemical Works were established in 1870. The original plant consisted of a small windmill at York, Pa., built by Charles H. Dempwolf and used for furnishing power to operate a bone-grinding mill. This was one of the pioneer fertilizer plants in the United States, and its growth has kept pace with the increasing demands made on it. In 1920 the design of the windmill was adopted as a trade-mark for the company's products.

The officials of the York Chemical Works are as follows:—President, C. H. Dempwolf; vice-president, J. A. Dempwolf; secretary, Reinhardt Dempwolf, and treasurer, C. H. Dempwolf, Jr.

WETHERILL & BROTHER
Philadelphia, Pa.

Few concerns in this country have so long or so interesting a history as Wetherill & Brother, white lead manufacturers, of Philadelphia.

To begin with, the business was established in 1762 by Samuel Wetherill. This ancestor of the present head of the corporation was born in 1736, having been a great-grandson of Christopher Wetherill, who came from England and who, in turn, traced his descent through an unbroken line from Edward I of England and his queen, who was a daughter of Philip III of France. Samuel, however, was a carpenter's apprentice, and later married his master's daughter which, according to the traditions of those days, was quite the proper thing to do. He then branched out into the handling of builders' materials, including paints. The firm became Samuel Wetherill & Son in due course of time and did a considerable business in importing dry white lead and red lead. In 1804 the Wetherills erected works at Philadelphia for making their own white lead and red lead, but still imported the metal. Their works were destroyed by fire believed to have been started by an emissary from lead eroders in the old country who "viewed with alarm" the beginning of competition in the new world. New works were erected. An agent of the British lead eroders tried to induce the Wetherills to build a brewery instead, but they were "determined to make white lead."

So the British interests, in 1808—even as strong men in other lines have done in more recent years—tried to "freeze out" the weaker house by reducing prices. President Jefferson's embargo is a matter of history. Incidentally it sent the Wetherills into the interior of Pennsylvania for their supplies of pig lead. When the Missouri lead mines were opened they proved a superior source of supply.

The Wetherills were also pioneers in the use of coal for fuel, and in the matter of being ridiculed for their queer notions they ran Noah a close second.

Samuel Wetherill died September 29, 1829, leaving his business to his four sons, who continued it under the name of Wetherill Brothers. Two brothers retired in about three years and the firm name was changed to Wetherill & Brother. One of these brothers died in

1853 and the other continued the business until his death in 1872, when his three sons succeeded him. In 1874 two of these brothers retired, and the remaining member of the firm remained alone until 1908, when he admitted his two sons to partnership. The same year the firm became a corporation, of which W. H. Wetherill is now president and his son, A. P. Wetherill, secretary.

SCHIEFFELIN & CO., INC.

New York

In 1781 Effingham Lawrence established himself in New York as a drug merchant. His place of business was at 227 Queen, now Pearl, street.

In 1794 John B. Lawrence and Jacob Schieffelin bought the business from Effingham Lawrence, the style of the firm becoming Lawrence & Schieffelin. John B. Lawrence was a younger brother of Effingham Lawrence, and Jacob Schieffelin was their brother-in-law, having married Hannah, their sister. The firm was located at 195 Pearl, opposite what was then called the "Fly Market" at the foot of Maiden Lane.

John B. Lawrence withdrew from the firm in 1799, and the business was continued under the name of Jacob Schieffelin, who, six years later, admitted to his business his son, Henry Hamilton Schieffelin, when the firm name became Jacob Schieffelin & Son. Their transactions were conducted on a large scale at 193 Pearl street.

Jacob Schieffelin retired in 1814, leaving his three sons, Henry Hamilton, Effingham, and Jacob, Jr., under the name of H. H. Schieffelin & Co., in charge of the business, which in 1841 was moved to 104 and 106 John street.

Just eight years after this move Henry Hamilton Schieffelin retired from the business and four of his sons, Samuel Bradhurst, Sidney Augustus, James Lawrence and Bradhurst, took control, conducting it under the name of Schieffelin Brothers & Co., these brothers constituting the third generation of the Schieffelin family to conduct the business.

Asher F. Randolph was admitted to the firm in 1853, and John D. Dix in 1855. In the year 1854 Samuel B. Schieffelin erected for the occupancy of the concern a structure at 170 and 172 William street, corner of Beekman, which it still occupies.

William H. Schieffelin (son of Samuel B.), William A. Gellatly and Joseph H. Westerfield were admitted to partnership in 1859.

An instance of the firm's enterprise in 1860 was its intelligent seizure of opportunities opened for new business by the discovery of petroleum in this country. It established an office at once at Titusville, Pa., and is believed to have been the first commercial house to bring petroleum into New York as a commodity.

At the close of the Civil War the four Schieffelin brothers retired, and the firm—composed of William H. Schieffelin, William A. Gellatly, Joseph H. Westerfield and William N. Clark, the latter the grandson of H. H. Schieffelin—was known as W. H. Schieffelin & Co. Mr. Westerfield having retired, William S. Mersereau and William L. Brower were admitted to partnership in 1880. Just ten years later William Jay Schieffelin (the son of William H.), being of the fifth generation of the Schieffelin family to control the business, and Henry Schieffelin Clark (son of William N. Clark) became members of the firm.

During 1894 the concern erected extensive laboratory buildings just beyond the Harlem River.

Schuyler Schieffelin was admitted to partnership in 1895, and William H. Schieffelin, having died in the same year, the style of the firm was changed to Schieffelin & Co. In 1903 it was incorporated as Schieffelin & Co. under the laws of the State of New York, the partners becoming directors of the company.

William N. Clark, the president of the corporation, retired in 1906, after a continuous service of more than half a century, and William Jay Schieffelin succeeded him, and Henry S. Livingston was made a director. William S. Mersereau, the first vice-president of the corporation, died in 1910, and Howell Foster made a director in 1911. Henry S. Clark, a director and treasurer of the company, died in 1918, and the following year William Jay Schieffelin, Jr., a son of William Jay Schieffelin, of the sixth generation of the family conducting the business, was made a director and treasurer.

The present officers (1921) are as follows:—President, William Jay Schieffelin; vice-presidents, William L. Brower, Schuyler Schieffelin and Howell Foster; secretary, Henry S. Livingston, and treasurer, William Jay Schieffelin, Jr.

ARCHER-DANIELS LINSEED CO.

Minneapolis and Buffalo

About 1840 Joseph Clegg purchased from Thomas Parrott his small screw-press oil mill at Dayton, Ohio, and borrowed $1,500 to finance the business. In 1844 William Shreve Archer was taken into the business by his uncle, Joseph Clegg. During the fifties and sixties of the last century Charles B. Clegg, the son, and E. Morgan Wood, son-in-law of Joseph Clegg, came into the business the firm name Clegg & Wood resulting. In 1868 G. A. Archer, son of W. S. Archer, entered the firm, Joseph Clegg retiring, and the name was changed to Wood, Archer & Co. In 1886 W. S. Archer, G. A. Archer and J. Shreve Archer built a linseed oil mill at Yankton, Dakota, the firm then being Archer & Co. In 1889 this firm built a mill at St. Paul, Minn.

Lewis Leonard and W. P. Orr, constituting the firm of Orr & Leonard, built a linseed mill at Piqua, Ohio, in 1868. Mr. Leonard's son-in-law, J. W. Daniels, joined them in 1879, the firm name becoming Orr, Leonard & Daniels.

In 1901 J. W. Daniels with G. A. Archer built a mill at Minneapolis. They incorporated the Archer-Daniels Linseed Co. This company now has, in addition to sixty-four presses at Minneapolis, an 80-press mill at Buffalo, N. Y., and is building a mill at Edgewater, on New York Harbor. The stockholders of the Archer-Daniels Linseed Co. own, in the same proportion, the stock of the Toledo Seed & Oil Co., with twenty-nine linseed presses.

J. W. Daniels is president of the Archer-Daniels Co., and G. A. Archer is vice-president. Samuel Mairs, secretary and treasurer, entered the business in 1903, and Shreve M. Archer, vice-president, entered the business in 1911.

MINNEAPOLIS DRUG CO.

Minneapolis, Minn.

In 1868 the founding of the Oil, Paint and Drug Reporter was three years in the future. That year two enterprising young men from Northampton, Mass., Messrs. Lyman and Tucker, went west to grow up with the country. They bought a retail drug store at Minneapolis, from Leonard & Gardner, and their growth began. In about a year Nelson Williams bought Mr. Tucker's interest, and the firm became Lyman & Williams. Its business increased rapidly and a new building was added for manufacturing purposes. Mr. Williams retired from the firm in 1874, leaving George R. Lyman alone. The year prior to that Melcudy & Lyman bought the retail store, and the year after Mr. Williams' retirement F. W. Lyman joined his brother in forming the firm of Lyman Brothers to carry on the wholesale business. The Northwest was developing rapidly in those days, and the trade of the new firm kept pace with it.

In 1883 J. C. Eliel, of a family of druggists at La Porte, Ind., who had been connected with the wholesale drug firm of John A. King & Co., of Chicago, bought an interest in the Minneapolis concern. As a result, the Lyman-Eliel Drug Co. was formed, with James Crays and J. H. Reynolds, who had been traveling salesmen for the Lymans, as part of it.

George R. Lyman went abroad on account of impairment of his health, and a big fire loss to the firm followed soon thereafter, in 1883. In 1884 Mr. Eliel's brother, H. H. Eliel, went from his old home at La Porte, Ind., and became secretary of the company. Many moves into larger and still larger quarters were necessitated during the growth of the company's business.

Both the Lymans retired permanently in 1905 on account of ill health, and two years later the two Eliels sold their entire interests in the business. Henry Doerr and Sewall D. Andrews acquired control and changed the name of the company to the one it now bears. Henry Doerr, president of the company, was born at Milwaukee, in 1853. As a lad he clerked in a cigar store at Minneapolis. Before he was twenty-one he had formed a partnership with Henry Winecke, and this firm built up a large wholesale and retail cigar and tobacco business. They became interested in drug stores, and Mr. Doerr entered the wholesale drug business, as has first been outlined. George V. Doerr is vice-president of the drug company, Henry Doerr, Jr., is its secretary, and S. D. Andrews its treasurer.

FRITZSCHE BROTHERS, INC.

New York

On August 28, 1871, the firm of Fritzsche, Schimmel & Co. was established in this city by Paul T. Fritzsche, Herman T. Fritzsche and Ernest T. Fritzsche, for the purpose of importing and selling essential oils, aromatic chemical preparations and fine drugs. In 1877 the style of the firm was changed to Fritzsche Brothers.

The management of the firm was in later years vested in Carl Brucker and Frederick E. Watermeyer. The latter is now president of Fritzsche Brothers, Inc., the incorporation having taken place in May, 1919. The other officers are Frederick H. Leonhardt, vice-president; Julius Koehler, secretary, and William A. R. Welcke, treasurer.

McARTHUR, IRWIN, LTD.

Montreal, P. Q.

Montreal is one of the oldest cities in North America, having been settled by the French in 1642. On the two hundredth anniversary of the establishment of the city John McArthur and Alexander Ramsay started there a business which has grown in size and importance with the city. In course of time James C. McArthur, son of John, became a member of the firm, and later C. C. Corneille was admitted. The concern was incorporated in 1912, the officers being:—President, George Y. Chown; vice-president and managing director, John Irwin, and secretary-treasurer, F. A. Bengough. It holds controlling interests in the Miller Extract Co., Millerton, N. B.; Davies, Irwin, Ltd.; Parker, Irwin, Ltd., and Laporte, Irwin, Ltd.

LANGLEY & MICHAELS CO.

San Francisco, Cal.

It was in the year 1850 in a very modest way that Charles Langley laid the foundation of an establishment at San Francisco which has become pre-eminent in the ranks of the wholesale drug trade of the Pacific Coast. Not long after he had established himself he enlisted additional capital, the firm name becoming Bogart, Clark & Langley. In 1854 Messrs. Bogart and Clark retired and A. J. Langley joined his brother in forming the firm of C. & A. J. Langley, to continue the business. In 1860 the junior member retired and Charles Langley again became sole owner of the store. But he did not so remain for many years, as in 1865 Dr. Eugene Crowell acquired an interest in it, when the name of Langley, Crowell & Co. was adopted. This was the style of the firm for but two years, at the end of which time Henry Michaels succeeded Dr. Crowell, when the sign over the store door was changed to Charles Langley & Co. The year 1875 marked the passing of the senior member of this firm, whereupon Mr. Michaels assumed the management of the business, the name of which became Langley & Michaels.

In 1884 the business was enlarged by the absorption of the then well-known house of Crane & Brigham. The same year Robert Watt became a member of the firm, which in 1888 was incorporated and its present title adopted.

During the years of its rapid growth the concern found it necessary to go into larger quarters from time to time. From Commercial street (then known as Long Wharf) it moved, in 1865, to Battery and Clay streets; in 1876, to Front and Pine streets; in 1886, to First and Jessica streets, where land had been purchased and a commodious building erected which remained the home of the business until it was destroyed by the great fire following the earthquake of 1906. A new building was built on the old site at once, and ten years later adjoining land was purchased and an enlargement made.

Henry Michaels died in 1920, the present officers of the corporation being:—President, C. T. Michaels; vice-president, W. L. Pattiani; secretary, F. T. Norton; treasurer, W. F. Terry, and sales manager, E. S. Fitzgerald.

RICHARDSON DRUG CO.

Omaha, Neb.

Established at St. Louis in 1855, the Richardson Drug Co. of Omaha, Neb., is one of the oldest wholesale drug concerns of the West. The name under which this house is now known was adopted in the early seventies, prior to which time it had been Richardson & Co.

In 1887 the company established a branch house at Omaha, and after a disastrous fire at St. Louis on New Year's Day, 1889, discontinued the original business at that city. Charles F. Weller, who is president of the company, had been a successful traveler for the house for a great many years. He became a director of the company in 1884, and was made a vice-president at the time of the opening of the Omaha branch, and general manager of that branch. He succeeded to the presidency on the death of J. Clifford Richardson in 1899. Mr. Richardson had learned the business under his father, who made him vice-president of the company in 1870, upon the attainment of his majority. The senior Richardson died in 1892, having in his more than forty years' connection with the wholesale drug business been one of its most enterprising and influential representatives.

CHARLES A. PELTON

Middletown, Conn.

In a book issued by W. H. Schieffelin & Co., in 1894, to commemorate the completion of their first one hundred years of business life, appears a fac-simile of an invoice of goods bought by Samuel Southmayde & Co., Middletown, Conn., in 1800, from Jacob Schieffelin. Both houses are still in existence, a sketch of the wholesale house appearing elsewhere in this issue. The retail house was then just getting under way, as it was established the year the bill of goods was bought from the New York merchant.

The changes of name and proprietorship undergone by the Connecticut house, and their dates, is shown by the following list:—Samuel Southmayde & Co., 1800; T. [imothy] & S. [amuel] Southmayde, 1821; Southmayde [Samuel] & Boardman [Giles M.], 1823; Giles M. Boardman, 1830; Henry E. Boardman, 1843; Edward C. Hubbard, 1846; William L. Hubbard, 1849; Edward C. Hubbard, 1851; Christopher F. Collins, 1855; Collins [Christopher F.] & Pelton [Charles A.], 1862, and Charles A. Pelton, 1871. The last date shows that the business has been conducted under its present name for a half century.

MALLINCKRODT CHEMICAL WORKS

St. Louis, Mo.

One of the large producing concerns which had helped to build up the reputation of St. Louis as a drug and chemical market is the Mallinckrodt Chemical Works.

Like most other St. Louis drug and chemical houses, this institution is the outgrowth of a very small start. Established in 1867, it has developed into one of the largest manufacturers of fine chemicals in the United States. In addition to its manufacturing plant in St. Louis, which occupies over six acres, covered with large manufacturing and warehouse buildings, employing about a thousand people, the Mallinckrodt Chemical Works operate an extensive plant at Jersey City, as well as branches in this city, Philadelphia, and Montreal.

Edward Mallinckrodt is president of the concern and O. L. Biebinger is its secretary.

GIBSON-SNOW CO., INC.

Albany, Troy, Syracuse, Rochester and Buffalo, N. Y.

Gibson-Snow Co., Inc., is the outgrowth of the business established at 74 to 78 State street, Albany, in 1829, by Archibald and John McClure. After a fire, a new building was erected on the old site in 1866.

William A. Rice, a brother-in-law of Archibald McClure, was admitted to the firm on the death of John McClure. Later Archibald McClure's two sons, Archibald, Jr., and William H., were admitted to the firm. The business at this time was conducted on both a wholesale and retail basis.

In 1873 Archibald McClure, Jr., became head of the house, his father having died and Mr. Rice retired from the partnership.

Charles Gibson, now head of the Gibson-Snow Co., Inc., and William J. Walker were, in 1883, admitted to the firm, which, in 1889, became McClure, Walker & Gibson. A. McClure, Jr., had died in 1888, leaving as partners William H. McClure, Charles Gibson and William J. Walker. When Mr. McClure retired in 1892 the firm became Walker & Gibson and so continued until 1904, when at the death of William J. Walker, Charles Gibson became sole owner of the business. The Albany house, however, continued under its old name, Walker & Gibson.

The present Albany home of the company, at Broadway and Orange streets, was erected in 1915, when the State street location was sold.

The Rochester branch of the Gibson-Snow Co., Inc., was founded in 1906 as a branch of the Albany house, under the same management and ownership, but was conducted as a separate corporation called the Gibson Drug Co. In 1911 it purchased the stock and good will of the Blauw-Barnum Co., wholesale druggists, and in 1913 William Gibson went from Albany to Rochester to take charge of the business.

In 1915 the Gibson Drug Co. moved from 63 St. Paul street, Rochester, to its present building at St. Paul, Franklin and Westcott streets. This branch is now conducted by The Gibson-Show Co., Inc., which corporation was formed January 1, 1919.

The history of the Syracuse branch of the Gibson-Snow Co., Inc., dates back to 1854, when Charles W. Snow, associated with W. B. Tobey, began business in the old Granger Block on East Genesee street, under the firm name of Tobey & Snow. In 1867 Mr. Snow sold his interest to his partner, and started a wholesale and retail drug store at 28 East Genesee street, under the name of C. W. Snow & Co., taking into the company his brother, Orrin J. Snow, and his brother-in-law, Charles J. Powers. In 1888 a new eight-story building was constructed by the firm at 216 South Warren street. Mr. Powers had sold his interest in the business some years before.

In 1896 Mr. Snow's son, Nelson P. Snow, was taken into the firm, which later became incorporated under the name of C. W. Snow & Co., Inc. This company, on January 1, 1915, moved into a new building at 306 to 314 West Willow street, and a year later became a part of the Gibson-Snow Co., with branches at Albany, Troy and Rochester.

In the summer of 1920 the company opened its fifth branch at Buffalo. William W. Gibson was transferred from Rochester to Buffalo, leaving in charge of the Rochester branch W. A. Bellinger, who had been Mr. Gibson's assistant there. A. G. Kellner, who had been buyer at Rochester, was made manager of the Buffalo branch.

The officers of the Gibson-Snow Co., Inc., are:—President, Charles Gibson, of Albany; vice-presidents, William W. Gibson, of Buffalo, and Nelson P. Snow, of Syracuse; secretary-treasurer, George B. Evans, of Albany. These, with Irving S. Merrill, of Syracuse, make up the Board of Directors.

SMITH, KLINE & FRENCH CO.

Philadelphia, Pa.

The history of the Smith, Kline & French Co. dates back to 1841, when its original predecessor, George K. Smith & Co., entered business. This concern was succeeded in 1863 by Smith & Shoemaker.

In 1865 Mahlon N. Kline came with the latter firm as bookkeeper and his ability and industry gained him a partnership in 1868, the name of the concern then being changed to Smith, Kline & Co. In 1888 the corporation of Smith & Kline Co. succeeded the old firm.

The rapid growth of the business necessitated its removal successively from 243 North Third street to 309 and 311 North Third street, in 1878, and to a part of its present location, 429 and 435 Arch street, in 1887.

Another of the leading Philadelphia drug houses had been French, Richards & Co., northwest corner of Tenth and Market streets, and when the business of this firm was liquidated, January 1, 1890, H. B. French became associated with the Smith & Kline Co. as its vice-president, the name being changed to its present form, Smith, Kline & French Co. Mr. Kline died in 1909 and was succeeded as president by Mr. French.

Through all these years the concern has enjoyed a steady and continuous growth until today and for some years past it is ranked near the top in volume of business among the wholesale drug houses in the United States.

It is claimed by the Smith, Kline & French Co. that it inaugurated the system of quick deliveries in the drug trade. In the old days the retailer who ordered on the 1st of the month was lucky if he got his goods by the 15th. Like most of the larger wholesale drug houses, this one does a considerable amount of manufacturing. Its laboratory was at first located at 305 Cherry street, but it was later on moved to its present location at Canal and Poplar streets.

The present officers of the corporation are:—President, C. M. Kline (son of M. N. Kline); vice-president, J. C. Buck; secretary and treasurer, H. S. Valentine, and chairman of the board of directors, H. B. French.

DEVOE & RAYNOLDS CO., INC.

New York

In 1754, 168 years ago, the business now known as Devoe & Raynolds Co. was established. It was in existence when British colonies dotted the eastern edge of what is now the United States. William Post was its first proprietor, twenty-two years before the Revolutionary War, New York then being but a village. It is now said to be the oldest business in this city. If it is true, as has been stated, that there are only five going concerns in this country (all in Philadelphia) which antedate the Devoe & Raynolds Co., then that company conducts the sixth oldest business in the United States.

The Devoe & Raynolds Co. has lived through seven great wars, namely:—The French and Indian War, 1756-63; the American Revolution, 1775-83; the War of 1812, 1812-15; the Mexican War, 1846-48; the Civil War, 1861-65; the Spanish-American War, 1898-99; the World War, 1914-18. It has seen New York grow from a village of about five thousand souls to a city of over five million.

William Post's paint establishment was at the corner of Water and Fletcher streets for the first 100 years of its existence. From 1754 to 1793 it was in his

own name. In the latter year he admitted his two sons, William and Gerardus, to partnership, and the firm name became William Post & Sons.

In 1800 William Post, Sr., died and the firm name was changed to William & Gerardus Post.

In 1834 the name of Gerardus disappeared, and the business was again conducted solely under the name of William Post.

In 1836 two clerks, Butler and Barker, bought Mr. Post's business, which they continued under the firm name of Butler & Barker. This, in 1846, was changed to Butler & Raynolds, at which time the present-day history of the concern began.

C. T. Raynolds began his connection with the business as bookkeeper for Butler & Barker. In 1851 he became its sole owner and conducted it under his own name. The following year F. W. Devoe, another man who had worked his way up from a clerkship in the old Water street store, joined him to form the firm of Raynolds & Devoe.

In 1855, after having been 101 years in one location at Water and Fletcher streets, the business was moved to 106 and 108 Fulton street, and the firm name became Raynolds, Devoe & Co., and then, three years later, Raynolds, Devoe & Pratt. The junior member was the Charles Pratt of Astral Oil fame, who, in 1864, severed his connection with the paint business and entered the Standard Oil Co.

In 1864, too, the Raynolds and Devoe interests decided to separate, C. T. Raynolds & Co. remaining at 106 and 108 Fulton street and F. W. Devoe & Co. going across the street to 117, where they remained until 1876, when they moved to the corner of Fulton and William streets, where the present company now does business. The new partnership, which was formed January 1, 1864, was made up of F. W. Devoe, his brother, George W. Devoe, and James F. Drummond. The latter became the factory manager and devoted himself to the business for over fifty years.

In 1868, John Alston, of Chicago, was taken into the firm, and a branch concern, Alston, Devoe & Co., was formed in Chicago. The same year J. Seaver Page was admitted to membership in the company.

With few other changes the firm of F. W. Devoe & Co. continued until December, 1890, when it became the corporation of F. W. Devoe & Co.

From 1864 the firm of C. T. Raynolds & Co. had continued in business at 108 Fulton street, but in 1892 the two concerns merged again under the name of F. W. Devoe & C. T. Raynolds Co., of New York, with offices at Fulton and William streets, and the Devoe & Raynolds Co., of Illinois.

In April, 1917, a reorganization took place, the title of the concern becoming the Devoe & Raynolds Co., Inc., of New York, embracing all the various branches of the business. Charles C. Barrett, of Chicago, became its first president. On the death of Mr. Barrett, in October, 1918, the present management became effective as follows:—President, W. H. Phillips; vice-presidents, I. W. Drummond, S. R. Harrington and C. A. Campbell; secretary, J. M. B. Drummond; treasurer, J. J. Alsfasser; assistant secretaries, E. S. Phillips and E. T. Gray; assistant treasurers, D. Kiefer, C. D. Potter and H. E. Reed.

SPURLOCK-NEAL CO.

Nashville, Tenn.

During the year 1868 two men in the steamboat business, William Litterer and Captain Cabler, started a retail drug store on the southwest corner of Broad street and Second avenue, Nashville, Tenn., and there they continued to do a combined retail and jobbing business until the death of Captain Cabler, at which time the firm name was changed to William Litterer & Co. The interest of Captain Cabler was represented in the management of the business by a young clerk in the store, Henry C. Spurlock. Later the business was removed to 108 North Market street (now Second avenue). Here, on March 7, 1883, fire destroyed both building and stock.

After this fire William Litterer retired from the drug business and entered the milling business.

Henry C. Spurlock entered into a partnership with R. E. Page, T. I. Webb and E. M. Neal. The new concern rebuilt and began a strictly wholesale business under the firm name of Spurlock, Page & Co. In 1886 R. E. Page returned to the retail drug business, and the style of the firm was changed to Spurlock, Neal & Co.

On April 23, 1893, H. C. Spurlock died. The management of the business then fell upon a clerk, Charles S. Martin, who, in September of the same year, purchased a one-third interest in it. Mr. Martin was born in Virginia in 1862, his mother having been a member of the old and distinguished Cabell family of that State. In 1899 it was incorporated as Spurlock-Neal Co., with the following officers:—E. M. Neal, president; Charles S. Martin, vice-president and general manager, and T. I. Webb, secretary and treasurer.

In 1904 the company bought the large building at the corner of Second avenue and Clark street. On March 24, 1911, T. I. Webb died and was succeeded as secretary and treasurer of the firm by Smith Tenison, a brother-in-law of Mr. Martin. The present officers of the company are:—President, Charles S. Martin; secretary-treasurer, F. Smith Tenison.

CHURCHILL DRUG CO.

Burlington and Cedar Rapids, Iowa, and Peoria, Ill.

Away back in 1845 Jules Tallant ran a little drug store on a corner at Burlington, Iowa, and in 1856 this business was bought by C. P. Squires & Co. Reynolds & Churchill, who were established in 1871, consolidated with C. P. Squires & Co., in 1889, forming the Churchill Drug Co.

Thus from a moderate start some eighty years ago the outgrowth of a business established on a prominent corner, the Churchill Drug Co., with headquarters at Burlington, and houses in Cedar Rapids, Iowa, and Peoria, Ill., has grown to large proportions, the three stores being capitalized at more than $2,000,000.

BINSWANGER & CO., INC.

Richmond, Va., and Memphis, Tenn.

This year marks the fiftieth anniversary of Binswanger & Co., Inc., of Richmond, Va., and Memphis, Tenn.

In 1849 Samuel Binswanger, deceased, father of the present officers and owners of the corporation, cast his lot in Virginia, and in common with most Virginians, suffered the loss of practically all possessions as a result of the Civil War. By sheer will and energy during the reconstruction days after 1865, he succeeded, in 1872, in starting a small local business in glass, paints and oils. This modest beginning has resulted in the large and important enterprise which now is so well known to the trade.

The present officers are:—President, H. S. Binswanger, vice-president, M. I. Binswanger; secretary, Milton S. Binswanger, and treasurer, R. A. Binswanger. All these men started in the business at a very early age, and were schooled in the careful methodical ways of their father, and still are inspired by his example. Actual physical work in the shops as well as intimate association with executive and managerial matters in the office, gave to each a well-grounded familiarity with every detail of the industry and a thorough comprehension of the many problems connected therewith. Increased volume of business by 1902 necessitated a move into the present commodious quarters. At the same time paints were eliminated and the company has since confined its efforts to the glass business.

Further expansion resulted in the establishment of the Memphis house in 1906, and fifteen years of application of the old Binswanger principles have firmly established this house in the territory it serves.

HIRSHBERG PAINT CO.

Baltimore, Md.

The business of the Hirshberg Paint Co., Baltimore, Md., was started in Baltimore in 1845, by Henry Hirshberg, under the name of Henry Hirshberg & Co. Moses H. Hirshberg and Nathan H. Hirshberg, succeeding their father, Henry Hirshberg, and Isaac Hollander (son-in-law of Henry Hirshberg), later becoming connected with the business, the firm name was changed to Hirshberg, Hollander & Co.

In 1918 the Hirshberg Paint Co. was incorporated to continue the business. Its officers are:—President, Milton Hirshberg; vice-president, Ralph Sinsheimer; secretary-treasurer, Morton M. Goldsmith, and general manager, Max E. Goldsmith. All these officers, as well as Moses Hirshberg, were actively associated with the firm of Hirshberg, Hollander & Co., as well as with the present company. Moses Hirshberg is a son of the founder of the original firm and father of Milton Hirshberg, the present president. Max E. Goldsmith has been connected with the business since 1872, and this year will round out a half century of his guidance and active interest in this business.

The company manufactures house paints, colors and painters' supplies. It has offices and warehouses at 106 to 110 West Pratt street, Baltimore, and factory and storehouses at Warner, Ostend and Alluvian streets, that city.

For seventy-seven years the name of Hirshberg has been associated with the paint interests of the country.

HELLER & MERZ CO.

New York

The Heller & Merz Co. was started in 1868, nearly fifty-two years ago, as a partnership, to engage in the manufacture of ultramarine, which had not up to that time been manufactured successfully in the United States. Frederick Heller and Henry Merz were the partners who conducted the enterprise in this form until 1887, when the business was incorporated under the name it now bears, the Heller & Merz Co.

Early in the eighties of last century the firm added coal-tar dyes to the list of its products, and has continued the manufacture of paints and dyes to the present day.

Frederick Heller, who had charge of the manufacturing end of the enterprise, died in 1889, and Henry Merz, who conducted the commercial end of the business, died in 1905. On the death of Henry Merz, Paul Schnorrenberger took charge of the commercial end of the business and to Eugene Merz and August Merz fell the work of conducting the manufacturing plant.

JASPER PRYER

New York

Just about a hundred years ago, or, to get down to actual dates, in 1822, George and Jasper Pryer established a business at 250 Front street, New York, under the name of Pryer Brothers. John and James Pryer and John Durkin continued the business at the same stand as J. & J. Pryer & Co. John dropped out and George Pryer joined the firm, which then became James Pryer & Co. At about the same time the business was moved to 215 Front street. James Pryer, 171 Front street, did business alone under his own name for a while. Then George came in and James Pryer & Co. was the style for a second time. Their places of business were at 171 and 160 Front street. In 1869, just two years before the Reporter came on the scene, Jasper Pryer became sole owner of the concern. The older store was closed and the business was conducted at 160 Front street. It is still under the sole ownership of Jasper Pryer, whose office as broker in oils, greases and fertilizer materials is at 29 Broadway.

JAMES BRADFORD CO.

Wilmington, Del.

James Bradford began the manufacture of ready-mixed paints and the handling of glass at Wilmington, Del., in 1847. He built a window glass factory in 1880. In 1887 Mr. Bradford incorporated the company and in 1893 sold its entire capital stock to William Berl and Walter M. Francis.

The present officers of the company are:—President, William Berl; vice-president, H. G. Marston, and treasurer, Walter M. Francis.

CARPENTER-MORTON CO.

Boston, Mass.

The Carpenter-Morton Co. of Boston can point to a record of eighty-one years of continuous business success, having been established in 1840 by Eleazer F. Pratt. In 1843 Mr. Pratt was joined by George B. Rogers under the name of Pratt & Rogers. In 1846 George W. Banker became a partner, when the name was changed to Pratt, Rogers & Co. In 1849 Messrs. Pratt and Rogers withdrew and the business was continued by George W. Banker, Matthias Crocker and George O. Carpenter, under the name of Banker, Crocker & Co. In 1852, upon Mr. Crocker's withdrawal, the firm became Banker & Carpenter. In 1864 Edward T. Woodward, John D. Morton and Isaiah Woodbury were admitted to partnership without change in the firm name. In 1868 Messrs. Banker and Woodbury withdrew, the remaining partners continuing until 1892 under the name of Carpenter, Woodward & Morton, when the business was incorporated under its present name, the Carpenter-Morton Co.

The present officers of the corporation are:—George C. Morton, who is a son of John D. Morton, president; M. Elton Vose, vice-president, and William E. Gilmour, treasurer.

The business was first conducted at 5 Broad street, Boston, then at 107 and 109 State street, and later at 151 Milk street. On January 1, 1899, the company moved into its present home, the Sudbury Building, 77 and 79 Sudbury street. Its factory is located at Everett, Mass., and there are distributing branches at Chicago, San Francisco, Columbus, Dallas and Montreal.

FREDERICK STEARNS & CO.

Detroit, Mich.

Years before Henry Ford and others had made Detroit famous in the automobile world, that wonder city on the straits had established for itself a unique and enviable record as a center of pharmaceutical manufacturing.

Frederick Stearns, a young druggist and chemist from Buffalo, N. Y., was a pioneer in the pharmaceutical manufacturing field at Detroit. He began his career as a citizen of that place on New Year's Day, 1855. In the back room of his drug store on Jefferson avenue he made up medical preparations and—as at that time the business of manufacturing pharmaceuticals in a wholesale way was but a small one, each druggist usually making his own galenical preparations—he had little difficulty in selling his surplus to other druggists. Soon larger quarters were required by the enterprising young man, and by 1871—eventful year—after two fires which caused a loss of $80,000, he separated his manufacturing laboratory from his retail and wholesale drug business, moving it to Woodbridge street, near Sixth. In 1881 Mr. Stearns sold his drug store to Henry J. Milburn and established the manufacturing end of his business at Marquette and Twenty-first streets. The following year a $200,000 corporation, Frederick Stearns & Co., with Frederick Stearns as president, was formed to continue the business.

In 1887 the founder gave way to his son, Frederick K. Stearns, then only thirty-three years old, as head of the business, and devoted a large part of the remaining years of his life to travel, study, the arts and philanthropy. He died in 1907, at the age of seventy-five years. The business, magnificently housed on Jefferson avenue, is still controlled by his sons, who, with others, are active in its management.

F. A. MARSILY & CO.

New York

Witthoff, Marsily & Co., petroleum exporters and brokers, began business in January, 1871. In those days petroleum meant more particularly kerosene.

To Europe the oil was shipped in barrels, which led to the business of returning the empty barrels to this country, in which this firm participated very extensively, having been among the largest importers of "empties."

In June, 1890, Mr. Witthoff retired from the business, whereupon Mr. Marsily took into partnership Otto A. Theurkauf, the firm becoming F. A. Marsily & Co. The senior member died in 1894, and the business has been continued by the surviving partner. It consists principally of exporting lubricating oils to all parts of the world.

THOMAS C. DUNHAM, INC.

New York

Thomas C. Dunham, Inc., dealer in paints and glass, 68 Murray street, New York, is the present day name of a house which was established in 1852 by John H. Poillon. In 1863 Thomas C. Dunham became a partner in the business, and May 1, 1877, he purchased it and conducted it under his own name until February 1, 1897. At that time the business was incorporated and some of the old employes were allowed to acquire stock in it. It is still a corporation, the present officers being T. C. Dunham, son of the original Thomas C. Dunham, president; John Stephenson, secretary, and C. F. Mackay, treasurer. The oldest employe of the concern is William Jacques, who has been with it forty-five years.

THE HENRY B. GILPIN CO.

Baltimore, Md.

On July 1, 1845, Thomas Y. Canby and Edward F. Hatch established a drug firm under the name of Canby & Hatch. This firm was succeeded January 1, 1850, by Canby, Gilpin & Co., made up of Thomas Y. Canby, Bernard Gilpin and William Canby. January 1, 1886, the firm was reorganized and became the Gilpin-Langdon Co., composed of Bernard Gilpin, Henry B. Gilpin, Thomas P. Langdon and Charles F. Husted.

In order that the company might devote its entire attention to certain special lines, the Henry B. Gilpin Co. was incorporated January 1, 1904, to continue the wholesale drug and pharmaceutical manufacturing business. The present officers of this company are:—H. H. Robinson, president and general manager; D. N. Gilpin, grandson of Bernard Gilpin, vice-president and secretary, and J. O. Robinson, treasurer.

HILO VARNISH CORPORATION

Brooklyn, N. Y.

Back in 1863 $200 cash laid the foundation of the business of the Hilo Varnish Corporation, of Brooklyn, when the late John H. Schumann invested that sum and became a partner of Moller, Knaepp & Co.

The concern's first factory was in rented quarters on Manhattan avenue, Williamsburg. About 1868 the firm name was changed to Moller & Schumann. Five years later the business was moved to its present location, Marcy avenue and Gerry street, and commenced operations with four varnish fires and a one-story combination office and warehouse. In 1889 the capacity was increased to eight fires and the firm was incorporated as the Moller & Schumann Co. Next year the company first used the "Hilo" trademark and advertised in Printers Ink.

In 1910 J. H. Schumann retired from active control of the business he had entered forty-seven years previously and sold his interest in it to his four sons.

In 1918, because of the good-will value built by advertising "Hilo," the company name was changed to Hilo Varnish Corporation.

WILLIAM S. MERRELL CO.

Cincinnati, Ohio

In 1828 when Dr. William S. Merrell founded the establishment which still bears his name, Cincinnati had a population of 24,000. The modest drug store opened by Dr. Merrell at Cincinnati ninety-four years ago has developed into a large manufacturing establishment. During all this time the direct descendants of the founder of the house have remained at its head.

Dr. Merrell was born near New Durham, Green county, New York; received his education in Hamilton College, and went to Cincinnati in 1824 as a teacher of chemistry. When, in 1828, he opened his drug store at Chestnut street and Western Row (now Central avenue), his knowledge of chemistry stood him in good stead. He was one of the pioneers in a series of investigations of American materia medica which led, about the middle of the last century, to the introduction to the medical profession of podophyllin, hydrastis and other medicinal products of American origin. These investigations were facilitated by the fact that at that time Cincinnati was headquarters of the domestic crude drug industry.

In 1858 Ashbel S. Merrell, a brother of the founder, was admitted to a partnership in the business. Eight years later, George Merrell, son of Dr. Merrell, became a partner and active in the management of the concern's affairs.

Dr. William S. Merrell having died in September, 1880, the William S. Merrell Chemical Co. was organized in 1881 by his son, George Merrell, who became its president and general manager.

Charles G. Merrell, the eldest son of George Merrell, had spent his vacations in the employ of the company and on graduation from the Massachusetts Institute of Technology in 1888, entered the employ of the house as a chemist. He became in turn works manager, general superintendent, traveling representative, head of the sales department, and, on the death of his father in 1914, president and general manager of the company. In 1918 the name of the concern was changed to the William S. Merrell Co., of which Charles G. Merrell is still president and general manager. His brother, Thurston Merrell, is treasurer and in charge of the financial department of the business, having joined the staff in 1905, upon his graduation in chemistry in Harvard University. The secretary of the company is Richard W. Proctor, who has been associated with the business since 1894, and the assistant secretary is Lee Wiltsee, who has been with the house for over twenty-seven years. The four generations of Merrells is represented on the staff by Frederick E. Merrell, eldest son of Charles G., who is assistant to the vice-president. Forty-four employes have been with the house for terms ranging from five to forty-four years.

Besides the laboratory at Cincinnati, the company owns and operates three birch-oil mills in Connecticut, whence it obtains oil for use in the manufacture of true, natural salicylates, of which it is a large producer.

Many changes in location have been made by the Merrell company as its business has expanded. From the little drug store on Chestnut street the concern went to larger quarters at Court and Plum streets, thence to Prool and Vine streets, and, in 1858, to 115 West Third street, where it continued until 1875. At this address four disastrous fires caused it heavy losses from 1866 to 1871. The warehouse and sales department was moved to 5 West Fifth street in 1876, and the manufacturing department to Sixth street and Eggleston avenue. Many additions have been made to the plant since then.

WOOSTER BRUSH CO.

Wooster, Ohio

"Sold! for eleven-fifty!" Thus the express company's auctioneer completed the sale of another unclaimed parcel. The highest bidder for the parcel, the contents of which were still a mystery, was Adam Foss, and little did he realize that his "grab bag" purchase was to be the foundation of one of the largest of brush factories.

The place was Cincinnati; the time, 1850; the occasion was a public auction of unclaimed shipments by an express company. Adam Foss, then in his early twenties, found himself in possession of a large parcel having a rather foreign appearance. After receiving his purchase he was naturally somewhat dubious as to whether he had been exactly wise in spending $11.50 for a package which, so far as he knew, might contain nothing at all. Upon opening it, however, he found that it contained hogs' bristles tied in small packages of various lengths.

Finding no ready and profitable sale for hogs' bristles, Mr. Foss decided to turn his purchase into cash by making the bristles into brushes and selling the brushes. He was of a mechanical turn of mind, so found little difficulty in fashioning a few rather crude brush handles and ferrules with the use of even more crude tools, and in due time had made up all his bristles into serviceable brushes. He then started on a journey to sell the first products of his one-man factory, and soon proved his ability as a salesman equal to his skill as a manufacturer.

When Mr. Foss had disposed of his last brush he found himself at the town of Wooster, Ohio. By this time the brush business as a means of livelihood strongly appealed to him, so he invested his small capital in an additional stock of raw material, and established a work shop in a small room at Wooster, where another supply of brushes was made and sold as before.

This procedure was repeated several times, until Mr. Foss' increased sales enabled him to purchase a horse and cart. Thus equipped he traveled over the surrounding country and sold brushes. Soon his business had so grown that it was impossible for him to do it justice and act as brush-maker and salesman at the same time. Then the little work shop was enlarged and a man employed to make the brushes while Mr. Foss sold them. A sign placed over the work room read:—"Wooster Brush Works, Manufacturers of High Grade Brushes."

Business improved. The factory was moved to larger quarters again and again, and its organization correspondingly expanded to meet the demand made on it. The year before the Reporter was established Adam Foss made his son, Walter D. Foss, a partner in the business, and a little later, his son-in-law, George W. Schwartz. These two men had ability, the results of which were quickly apparent. About 1895 the elder Foss retired from active participation in the business, but continued to maintain his keen interest in it. A few years later Walter D. Foss purchased Mr. Schwartz's interest in the business, and at about the same time admitted two of his sons, O. H. and D. J. Foss, to partnership.

In 1909 the Wooster Brush Works built a large plant. At the same time the firm was incorporated as the Wooster Brush Co. Practically all the machinery used by the Wooster Brush Co. is designed and built in its own plant by its own engineers and mechanics. A good number of workers have been in the constant employ of the Wooster Brush Co. for over twenty years, a few over thirty years and two over fifty years. A large number of the employes are stockholders.

The Wooster Brush Co. is now under the management of Walter D. Foss and his four sons. So, since 1851, when Adam Foss, with his small work room, horse and cart established this concern, it has had the constant attention of the Foss family.

ROBERT SHOEMAKER & CO., INC.

Philadelphia, Pa.

In American history the year 1837 stands out prominently. Jackson's financial policies had been bequeathed to his successor, Van Buren, who became President that year. Banks were forced to close their doors, and a financial panic, which is said never to have had a parallel in this country, wrecked business interests right and left. That was the year in which the house of Robert Shoemaker Co., Inc., paint and varnish manufacturers of Philadelphia, was established by Robert Shoemaker. A few years later the founder admitted to partnership his brother, Benjamin H. Shoemaker. Another financial panic of huge proportions came about in 1857. That year the Shoemakers moved their business into larger quarters, at its present address.

In 1863 Benjamin H. Shoemaker retired from the firm, taking with him its glass business. Two sons of the senior member, William M. and Richard M., joined their father. William M. retired many years ago. Two other sons, Thomas E. and Benjamin H., Jr., were admitted to partnership. Robert Shoemaker died in 1896, and Benjamin H. Shoemaker, Jr., in 1918. In 1919 the business was incorporated, with these officers:—President, Richard M. Shoemaker; vice-president and general manager, Thomas E. Shoemaker; secretary, Albert L. Hilles, Jr., and treasurer, H. C. Lincoln. Richard M. Shoemaker died last September, whereupon his brother, Thomas E. Shoemaker, became president of the corporation, and the new president's son, Dr. Robert Shoemaker, the third generation, succeeded his father as vice-president.

C. De P. FIELD CO.

New York

The business now carried on under the style of C. de P. Field Co. was founded by Hickson W. Field in a small office in the neighborhood of Burling Slip, New York, in or about the year 1829. This import and export commission business grew and thrived under the personal direction of the founder, and in the late fifties was taken over by the late Benjamin H. Field, a prosperous merchant in his time, who enlarged and extended the business. In due course of time Cortlandt de Peyster Field, son of Benjamin H. Field, became connected with the business, and in the year 1906 the present C. de P. Field Co. was incorporated.

WESSEL, DUVAL & CO.

New York

Wessel, Duval & Co., of this city, lays claim to being the oldest firm trading between the United States and the west coast of South America, having had a continuous existence for ninety-four years. The business was founded at Valparaiso by Augustus Hemenway, of Boston, in 1828, and for many years thereafter it was carried on between the offices in Valparaiso and Boston. Doubtless many older men of the present generation recall the prominence and high standing of Hemenway & Browne, of Boston, during their long career.

In 1892 this house opened a branch office in New York and within a few years the entire business in the United States was transferred to that office. The title of the firm has been, at various periods, Hemenway & Co. (in Chile), Browne, Beéche & Co., Beèche & Co., Beéche, Duval & Co., and, now, Wessel, Duval & Co.

The house has always held a leading position in the importation of Chilean sodium nitrate.

In the early years of the firm's existence its shipments were, of course, made by sailing vessels. At various times it owned the San Carlos, Prospero, Sunbeam, Quintero, Magellan and Independence. The last two, at least, were built by the firm especially for the West Coast trade. They were speedy ships and were known for their remarkably regular passages of about ninety days. The Magellan was lost off Cape Horn about 1890; the Independence was in use a few years longer and was then sold to Chilean owners, who still have her in use at the age of nearly fifty years, in the coastwise lumber business. The firm's West Coast line service has been maintained, first by sailing vessels, then by sail and steam, and now, for about twenty-five years, by steam alone, from the establishment of the business nearly a century ago.

SANFORD, CHAMBERLAIN & ALBERS CO.

Knoxville, Tenn.

Chamberlain & Albers began a drug business at Knoxville, Tenn., in 1864 and a few years later consolidated it with the business of E. J. Sanford & Co., making the firm name Sanford, Chamberlain & Albers. In 1896 the firm was changed to a corporation, Sanford, Chamberlain & Albers Co., with E. J. Sanford, president; A. J. Albers, vice-president, and W. P. Chamberlain, secretary and treasurer. All these former officers are now dead, and the business is in the hands of their respective estates, with the following serving as officers, namely, E. S. Albers, president and treasurer; A. F. Sanford, vice-president, and F. W. Chamberlain, secretary, with Mr. Albers the only one active in the business, the other officers being engaged in other enterprises.

HANCE BROTHERS & WHITE, INC.

Philadelphia, Pa.

Edward H. Hance established the business now conducted by Hance Brothers & White, Inc., at Philadelphia. That was in 1855, at Old York road and Callowhill street. Two years later the business was moved to 627 Arch street. At the expiration of another ten years it was back at Callowhill street, at Marshall, Seventh and Willow. The original members of the old firm were, besides the founder, Joseph C. Hance and Dr. James W. White. The concern was among the earlier producers of nitrous oxide and medicated cottons.

The present officers of the corporation are:—President, Louis N. Spielberger; vice-president and general manager, John J. Molloy; vice-president and treasurer, Edgar S. Kramer, and secretary, Norman K. Conderman.

CHARLES MORNINGSTAR & CO., INC.

New York

If there is an older house than Charles Morningstar & Co., Inc., of New York, engaged in the starch business, Joseph Morningstar, president of the company does not know of it, and he probably would if there were.

Charles Morningstar, grandfather of the present head of the business, established it at Fulton and Nassau streets in 1851. In the ordinary course of human unity he was succeeded by his son, Joseph Morningstar, who, in turn, was succeeded by his son and namesake. The present corporation was formed in 1916.

Early in its existence the business was moved to 48 Park Place (old series) and remained on that street at various locations until 1919, when it was moved to its present address, 349 Broadway.

AUGUST FABER & CO.

London

August Faber & Co., of London, was established in 1828 by August Faber. The business is now carried on by his grandson, Edmund Faber, as sole partner, with whom is associated H. W. Garraway, late of David Taylor & Sons.

JOSEPH CROSFIELD & SONS, LTD.

Warrington, England

Joseph Crosfield & Sons established a soap business at Warrington, England, in 1815. The present company of Joseph Crosfield & Sons, Ltd., was formed in 1896 to acquire and continue that business. In 1919 the whole of the ordinary shares in the capital stock of the company was purchased by Associated Enterprises, Ltd., a company whose capital is held by Lever Brothers, Ltd.

ENRICO GANNI & CO.

Leghorn, Italy

As long ago as 1847 Francesco Malenchini & Co. established at Leghorn what has grown to be a large business in the exportation of Italian goods. Associated with Mr. Malenchini was Enrico Ganni, who, in 1879, changed the firm name to Enrico Ganni & Co. Mr. Ganni died in 1908 and the business is continued by his two surviving sons, Antonio L. Ganni and G. B. Ganni.

F. W. BERK & CO., LTD.

London

F. W. Berk established himself in the chemical business in 1870. In 1891 he had that business incorporated as a private limited company, with himself as chairman of the board, and Robert Berk as his associate.

In 1917 Paul Felix Berk joined the board, and the following year the senior member died, leaving F. W. Berk and P. F. Berk sole directors. They have an office in London and works in that city and in Wales.

DONALD CAMPBELL & CO., LTD.

London, England

Donald Campbell & Co., Ltd., commenced operations in 1870, Donald Campbell then being alone in the business. John D. and George I. Campbell, sons of the founder, together with George C. Skeates, continued the business as a copartnership until its incorporation as a limited company in 1919, with a capital of £500,000.

The above-named partners are directors of the company, the board of which also comprises the Right Hon. Sir Harry S. Samuel, M. P., chairman, and R. Pollak.

DARLEY, BUTLER & DREW, LTD.

London

E. J. Darley and Samuel Butler entered into partnership in London in 1857. This firm was succeeded in 1870 by Samuel Butler. In 1897 the firm became Samuel Butler and Theodore Stretch; in 1906, Theodore Stretch and Sir William Wilson Mitchell; in 1913, Sir W. W. Mitchell and P. Somerville; in 1915, P. Somerville, W. E. Mitchell and F. S. Mitchell; in 1917, W. E. Mitchell, F. S. Mitchell and R. W. Forbes.

On January 1, 1920, the business was converted into a limited company under the name of Darley, Butler & Drew, Ltd., the directors being Ernest Francis Drew, Robert Wallace Forbes and Edward Lionel Parrott.

KUCHLER & CO.

Trieste

Julius Stettner established himself in business in 1876. He died in 1885 and was succeeded by his son-in-law, K. E. Hoffmann. C. Hutterott founded his business in 1846. When he died in 1889, his cousin, G. A. Kuchler, acquired it. Mr. Kuchler died in 1902 and was succeeded by his three sons, Carl W., Max G. and J. George Kuchler, who, in the same year, also took over the business of K. E. Hoffmann.

The three Kuchler brothers are still conducting the business. The senior partner, Carl W. Kuchler, has been to the United States on business trips several times, and is known to the leading importers of crude drugs on this side.

ALFRED HOPPS & SONS, LTD.

Liverpool, England

The business now conducted at Liverpool by Alfred Hopps & Sons, Ltd., was founded there by the late Alfred Hopps in his own name in 1860, and became Alfred Hopps & Sons in 1869. It was registered as a limited company in 1900. Since about 1864 the business has been mainly in petroleum and its products direct with the United States.

H. De HAAN & ZOON

Rotterdam, Holland

As long ago as 1825 Jacob Adriaan de Haan established an oil business at Rotterdam. About 1912 the last surviving member of the founder's family connected with the house retired and was succeeded by J. P. Spierenburg, who still is its sole owner. Since that time the firm has applied itself more specially to the wholesale oil and grease trade both on its own account and as brokers, and has an extensive export and import business.

The business has been carried on at the same address from the first.

JAN DEKKER

Wormerveer, Holland

The house of Jan Dekker, at Wormerveer, Holland, has been in existence since January 1, 1778, when it was established there by Jan Dekker. The business was handed down from father to eldest son until April, 1901, when Jan Alexander Dekker died and left the business to the present partners, Johan Willem Dekker, Willem Alexander Dekker and Hendrik Pieter Dekker.

COLGATE & CO., INC.

New York

One of the oldest concerns in this country doing the same kind of business since its foundation and remaining in the family of the founder, is the house of Colgate. It was established in 1806 by William Colgate and has been owned and managed by him and his sons, grandsons and a great-grandson ever since. Robert Colgate was a political refugee from England about the time of the American Revolution. His son William learned soapmaking as a boy, his first experience having been at Baltimore and his subsequent years of apprenticeship in this city. He was twenty-three years old when he branched out for himself at 6 Dutch street, New York.

A few years after his embarkation in business Mr. Colgate took in a partner, Francis Smith, but soon bought his interest, since which time the business has been owned solely by Colgates. When Mr. Smith retired from the firm of Smith & Colgate, Bowles Colgate joined his brother William to form the firm of William Colgate & Co.

William Colgate had three able sons. Robert, the eldest, went into the white lead business and was succeeded by the National Lead Co. James B. became a banker and a financial institution in Wall Street still bears his name; Colgate University was one of his pets. Samuel Colgate went into the Colgate soap business, as did his cousin, Charles, son of Bowles.

In 1847 Colgate & Co. had outgrown their Dutch street quarters and established a factory and offices on the water front in Jersey City, now one of the largest of its kind. They retained offices in Dutch street, however. Later the office building was extended to the corner of John street and there the firm continued to do business until 1910, when it consolidated its New York executive personnel with its Jersey City force, but established a salesroom at 199 Fulton street.

In 1919 Richard M. Colgate, one of William's grandsons, and president of the corporation, died, leaving a son, Henry A., who inherited his interest in the business. The present officers of the corporation are:—President, Gilbert Colgate; vice-presidents, Sidney M. and Austin Colgate; secretary, Henry A. Colgate, and treasurer, Russell Colgate.

J. S. MERRELL DRUG CO.

St. Louis, Mo.

The J. S. Merrell Drug Co. was founded by Jacob Spencer Merrell, more than seventy-eight years ago. In May, 1844, Mr. Merrell began his commercial career by purchasing, chiefly upon credit, a little drug mill at Cincinnati. The business prospered, and in five years he was manufacturing thirty thousand dollars' worth of goods annually. In 1853 he sold his Cincinnati business and upon the same day opened his store on St. Charles street, between Fifth and Sixth, St. Louis. In 1870 Mr. Merrell moved to the west side of Fifth street (Broadway) between Washington and Christy (Lucas) avenues, and in 1876 to 620 and 622 Washington avenue.

With but a single exception the Merrell business steadily increased. In 1857 a disastrous fire almost swept it away, leaving but $4,000 to represent what had been worth $25,000 to $30,000. Mr. Merrell died September 10, 1885. The same year the J. S. Merrell Drug Co. was incorporated and elected Cyrus P. Walbridge president. Mr. Walbridge had married the eldest daughter of Mr. Merrell. He continued as president of the company until his death, May 1, 1921. Henry J. Stolle became a director and treasurer of the company in 1902 and filled those offices until his death, a few months after the demise of Mr. Walbridge.

The present officers of the company are:—George R. Merrell, president and general manager; Merrell P. Walbridge, vice-president and treasurer; Hubert S. Merrell, Jr., vice-president; Edward F. Schlueter, secretary, and Cyrus W. Merrell, director.

BASS-HUETER PAINT CO.

San Francisco, Cal.

Gustav Hueter was a nephew of the Hueter who did a large business in manufacturing varnishes on the Rhine, at Vienna and at Petrograd early in the last century, and had learned the business under them. In 1857 he started a small plant of his own at Valencia and Thirteenth streets, San Francisco. In 1870 his brother, Ernest L. Hueter, joined him to form the firm of Hueter Brothers, which purchased the block bounded by Rhode Island, Kansas, Twenty-third and Twenty-fourth streets, the site of the present plant. In addition to a small factory on this block of land, the brothers maintained a paint and varnish store under the old Grand Hotel.

The business grew. In 1886 Ernest L. Hueter bought the interest of his brother and continued dealing under the style of San Francisco Pioneer Varnish Works.

In 1891 T. J. Bass and E. L. Hueter formed the Bass-Heuter Paint Co., Mr. Heuter continuing to operate the varnish business distinctly and separately. The Bass-Heuter Paint Co. at this time established a small plant on Valencia street. In 1901 the business moved to 816 Mission street, where its plant was destroyed by the great fire following the earthquake of April 18, 1906.

The first unit of the present plant was built at once on the block occupied by the San Francisco Pioneer Varnish Works, and has been added to from time to time. The main store and office is situated at 816 Mission street, and there are branches at Portland, Tacoma, Seattle, Oakland and Los Angeles, and connections with the larger jobbing distributing houses in California, Washington, Oregon and Nevada.

Soon after the formation of the Bass-

Hueter Paint Co., H. T. James joined the organization, and a few years later took over the general management of that company and of the San Francisco Pioneer Varnish Works. At this time Mr. Hueter bought the Bass interests and became the sole owner of the Bass-Hueter Paint Co.

On January 1, 1916, Mr. Hueter sold his entire interest in both the varnish works and paint company, and the two concerns were combined, with Mr. James as vice-president and general manager. A. A. Schumann has been superintendent of the varnish plant since its establishment in 1857, and Charles C. Del Curo has occupied a similar position in the paint factory for more than thirty years. These, with L. M. DuCommun, assistant general manager; J. H. Jennings, secretary and treasurer (since 1887), and A. Macdonald, constitute the present executives of the concern.

VALVOLINE OIL CO.

New York

Leonard & Ellis commenced business in 1867. The Valvoline Oil Co., of New York, is the successor of this firm and of John Ellis & Co. Dr. John Ellis conducted an oil refinery at Binghamton under the name of the Continuous Oil Refinery Co. When the refinery industry moved to tidewater in the early seventies this company failed.

In 1873 a refinery was erected at Brooklyn and operated by Dr. John Ellis. That was the year "Valvoline" was adopted as a trade-mark. The name was carried to the four corners of the earth by traveling salesmen. Seven years later the company moved its refinery from Brooklyn to Edgewater, N. J. A second refinery was built at Struthers, Pa., in 1897.

The businesses of Leonard & Ellis and of John Ellis & Co. were merged in 1901 to form the Valvoline Oil Co. and all foreign branches of the old firms came into the new corporation. The new concern built a refinery at East Butler, Pa., in 1908. The company owns pipelines in Western Pennsylvania, Ohio and West Virginia. It states that about 1867 it first introduced mineral oil for cylinder use in steam engines, and that the Corliss Steam Engine Works, of Providence, R. I., was the first regularly to adopt it in the place of tallow and sperm oil, as they said they found that it effectually stopped the corrosion of the engine parts. The company also claims to be the only oil concern that has been in the business from the early days of the industry and maintained its independence.

The officers of the company, who have been associated with it from an early date, are W. Dixon Ellis, president; George A. Ellis, treasurer; Henry S. Kriebel, assistant treasurer, and William James Goulding, secretary.

EIMER & AMEND

New York

In order that he might be satisfied with the quality of the medicines dispensed to his patients, Dr. W. H. Milnor, a successful paysician, established a drug store at the corner of Third avenue and Eighteenth street, New York, in 1845. Three years later Bernard G. Amend entered the doctor's employ and assumed the management of the store, Dr. Milnor devoting his entire time to the practice of medicine.

In 1851 Mr. Amend, with Louis Gail, purchased the business and conducted it under the style of Gail & Amend. In 1856 Mr. Gail retired. Mr. Amend then invited Charles Eimer, a former schoolmate, to join him, and the firm of Eimer & Amend was formed. This partnership was based on mutual confidence, as no written agreement was made.

Charles Eimer retired in 1883. In the meantime the store had gradually developed a jobbing business. Importation of drugs naturally followed.

As a result of a conversation with some of their fellow-members of the old Academy of Science, the partners began to import laboratory glassware and allied goods under the supervision of August Eimer, Charles Eimer's nephew. The addition of this line necessitated larger premises, and in 1876 two adjoining buildings were added to the plant.

Subsequent to the retirement of Charles Eimer, B. G. Amend readjusted the business and continued it under his personal supervision, and with the same firm name, until 1897. In that year the firm of Eimer & Amend was incorporated by Bernard G. Amend, his three sons, Otto P., Robert M. and Charles A. L. Amend, and his nephew, Edward B. Amend. These and August Eimer were the original directors. C. A. L. Amend resigned in 1899 and R. F. Amend died in 1914. Bernard G. Amend remained in active control of the business until his death in the spring of 1911. He was succeeded as president by August Eimer. The present officers are:—President, August Eimer; vice-president, Otto P. Amend; secretary and treasurer, Carl G. Amend (son of Otto P. Amend); assistant treasurer, A. O. Eimer, and assistant secretary, W. R. Eimer (sons of August Eimer); superintendent, Edward B. Amend; the directorate consists of these and Elenore Amend.

A large part of Eimer & Amend's success is attributed to the long and faithful co-operation of their employes. In addition to the services of three of its officers for over forty years (namely, August Eimer, forty-eight years; Edward B. Amend, forty-four years, and Otto P. Amend, forty-two years), the following men have been employed and are still active in the company (with the exception of Joseph Ruprecht, who died in 1915):—Rudolph Zimmermann and Louis Moses, forty-eight years; Emil Kuehnemann, forty-one years; Joseph Ruprecht, forty years; Albert Belling, thirty-nine years; Henry Wachter and William Duvelsdorf, thirty-eight years; Louis Bilstein, Herman Broestler and Henry Ferber, thirty-five years, and William Harres, thirty-three years. In addition to these older employes, many heads of departments have been with Eimer & Amend for periods ranging from twenty to thirty years.

In 1886 the old structures were torn down and replaced by a seven-story building at the corner of Eighteenth street and Third avenue. In 1896 and 1899 additions were built on Eighteenth street. At the outbreak of the World War a new wing used as a factory was erected on Nineteenth street. In addition to manufacturing glassware, the facilities of Eimer & Amend's metal shop were greatly enlarged about this time and a chemical plant was purchased at Newark, N. J. The latest development has been the increasing of the shipping facilities by converting the entire ground floors of the premises at 213 to 223 Third avenue, between Eighteenth and Nineteenth streets, into a large shipping room.

BRIGGS-MARONEY CO., INC.

Boston, Mass.

In the year 1842 John Briggs, father of the present head of Briggs-Maroney Co., Inc., of Boston, commenced the manufacture of paint at 4 Commercial Wharf, that city, the firm name at that time having been Wheeler & Briggs. Mr. Briggs was then only twenty-two years old. In 1876 the business was moved to 33 Batterymarch street and from that time until 1890 John Briggs conducted it alone under the name of John Briggs & Co. In the latter year John Briggs, Jr., was admitted to the firm.

Mr. Briggs, Sr., died in 1894, aged seventy-four years, having spent sixty years in the paint and oil business. In 1907 the present corporation was formed. To get more room, the company, in December, 1921, moved to its new plant at Everett Station, Boston.

The present officers of the Briggs-Maroney Co., Inc., are:—John Briggs, president; James E. Maroney, treasurer, and George J. Beake, secretary.

JOHN L. THOMPSON, SONS & CO.

Troy, N. Y.

Having triumphed a quarter of a century ago over the first hundred years of its existence, the house of John L. Thompson, Sons & Co., of Troy, N. Y., feels that the worst is over, so has settled down to a steady business.

The founder of this somewhat ancient house was Dr. Samuel Gale, who, at the age of twenty-five years, began to deal in drugs at Troy. In 1805 his brother, William, a lad of twenty-three, joined him to form the firm of S. & W. Gale. In 1806 President Jefferson appointed the older brother postmaster, and the government work was conducted in a part of the store. Business increased.

In 1817 John L. Thompson, of Peekskill, aged nineteen, capital 25 cents, got a job as clerk for the Gales. At the end of four years the firm name was changed to Gale & Thompson. In 1828 Mr. Thompson became sole owner of the business. David Cowee came to clerk for Mr. Thompson in 1835 and in 1841 was junior member of the firm of John L. Thompson & Co. The senior member's two sons, John I. and William A., became partners in the business in 1855, and the firm name was changed to John L. Thompson, Sons & Co. James F. Cowee, son of David, was admitted to partnership in 1869.

In 1903 the company was incorporated with these officers:—President, James F. Cowee; vice-president, Harvey D. Cowee; treasurer, William L. Thompson, and secretary, H. L. Waterbury. Upon the death of James F. Cowee in 1911 the present officers were elected, namely:—President, William L. Thompson; vice-president, Harvey D. Cowee; treasurer, H. L. Waterbury, and secretary, W. J. Wyley.

At one time there was a John L. Thompson Chemical Co., under the management of H. W. Thompson, but that was merged with the General Chemical Co., and now its former manager is a director of the drug corporation.

The original Gale store was on River street, near Congress street. The move to 163 River street was made in 1851. The present store occupies the lots from 159 to 167 River street, inclusive.

ROBINSON-PETTET CO.

Louisville, Ky.

The Robinson family has long been prominent in the business life of Kentucky's metropolis. The first member of the family—or of the branch of it now under consideration—to settle there was Richard A. Robinson, who was lured from his ancentral home in Virginia to what was then known as the West, in 1837. He was ninteen years old at the time and his first job was as bookkeeper in a wholesale grocery. In 1840 one of his brothers joined him and an old Virginia friend of theirs, Arthur Lee, and formed the dry goods firm of Robinson, Lee & Co., whose successor is now one of the important businesses in Louisville. Mr. Robinson also established the hardware house of Robinson Bros. & Co., now one of the largest in that city.

In 1840 William F. Pettet, father-in-law of Mr. Robinson, sold his drug store to James George and Arthur Peter, who conducted it under the name James George & Co. In 1842 Mr. Robinson bought the interest of Mr. George and the firm of Peter & Robinson continued the business. They were joined by George H. Cary in 1846 and the firm of Robinson, Peter & Cary opened a wholesale drug house. Mr. Peter retired in 1850, the firm name becoming Robinson & Cary. Upon the retirement of Mr. Cary, in 1855, Henry Chambers and W. Wallace Bowers, and later Charles H. Pettet, joined Mr. Robinson and conducted the business as R. A. Robinson & Co. Messrs. Chambers and Powers retired several years later, William A. Robinson, son of the head of the house, became a partner in 1864, at the age of twenty-one. The following year R. A. Robinson laid down active control of the business but retained his financial interest in it. That year, 1865, the stock was almost ruined by fire, but the business was soon under way again at another address. Worthington and A. Lee Robinson joined the firm as they grew into manhood.

In 1890 the Robinson-Pettet Co. was organized. R. A. Robinson, then in his seventy-fourth year, remaining out. Those organizing the company were Charles H. Pettet, William A. Robinson, Worthington Robinson, Arthur Lee Robinson, Charles P. Barton, James T. Campbell, William C. Robertson and Henry Tyler Robinson. Others who came into the company from time to time were Charles P. Barton, who became its treasurer in 1890 and vice-president and treasurer in 1906, and Charles P. Frick, who was elected secretary in 1897 and has recently died. William A., Worthington and Henry Tyler Robinson and C. H. Pettet have also died.

The present officers and directors of the corporation are:—President, A. Lee Robinson; vice-president and treasurer, Charles P. Barton; secretary, J. Thomas Schorch; cashier, H. Guy Lyons, and assistant secretary, William C. Robinson.

H. PLANTEN & SON, INC.

Brooklyn, N. Y.

Gelatin capsules were invented in France in 1833. Two years later Hermanus Planten, who came to America from Holland in 1834, made what is believed to have been the first capsules produced in this country. His shop was in a drug store where the towering New York Municipal Building now stands. In 1836 Mr. Planten subleased the upper floors of the building from the doctor-apothecary and there established his first laboratory for the manufacture of capsules. As the demand for his output increased Mr. Planten enlarged his quarters and soon was turning out as many capsules in a month as the present company, under the leadership of his grandson, does in an hour. It is said, however, that when it came to a matter of quality, the original H. Planten was an artist.

By 1840 Mr. Planten found he could not turn out capsules fast enough in his modest quarters over the apothecary shop, so he moved to a larger establishment at 95 Chatham street (now Park Row). In seven years he had to seek still larger quarters, which he found at 224 William street. By 1905 the business had further grown so a modern factory was put up at 93 Henry street, Brooklyn, where the company still is located.

Hermanus Planten has long since passed on, and H. Planten & Son, Inc., is headed by H. Roiff Planten, who has been making capsules for more than thirty-five years, and is assisted by Harold J. Babbidge, of the fourth generation from the founder of the business.

SECCOMB-KEHEW-BRADLEY CO.

Boston, Mass.

As long ago as the first half of the last century Samuel Downer was refining sperm oil at South Boston, Mass. In 1854 he began experimenting with hydrocarbon oils, and in 1860 incorporated the Downer Kerosene Oil Co. In 1853 Eben Seccomb purchased a plant at Salem, Mass., in which he manufactured candles. This plant was later converted into an oil refinery. In the early sixties John Kehew became associated with Mr. Seccomb, and later the two sons of the two men, respectively, Edward O. Seccomb and William B. Kehew, came into the business, and other branches of the oil and grease industry were taken up by Seccomb, Kehew & Sons at the Salem works. This firm made many experiments in the production and improvement of tanners' oils and greases.

In 1874 the firm of Allen Bradley & Co., which several years previously had succeeded the Downer Oil Co., consolidated with the firm of Seccomb, Kehew & Sons, and the united houses were incorporated and are now known as the Seccomb-Kehew-Bradley Co., of which J. Payson Bradley is president and Wayland H. Lewis, treasurer.

On its incorporation the company assembled its entire manufacturing business at the Salem works, which were greatly enlarged and improved. In June, 1914, these works were totally destroyed in the great Salem fire, which burned more than 250 acres of property in that city. A new location was acquired at Malden, Mass., close to tidewater and rail connection, where the manufacturing of the company's numerous products is now carried on, the business offices being located at 10 Post Office Square, Boston.

JOHN LUCAS & CO., INC.

Philadelphia

The founder of the house of Lucas, John Lucas, came to this country from England some time in the early forties of the last century, bringing with him a mature experience in the manufacture of paint materials. He selected as the first site of his operations in America an estate in New Jersey, which he purchased, located about fifteen miles east of Philadelphia. In an old grist mill upon the bank of a lake, John Lucas began the manufacture of his paints in America.

Mr. Lucas possessed an unusual degree of initiative in exploring beyond the boundary lines of the then current paint and varnish technique and made many improvements in the manufacture of colors, varnishes and other painters' supplies, some of which he patented.

As his business grew Mr. Lucas provided more room for it. In March, 1849, he opened a store at 33 North Front street, Philadelphia, and soon thereafter another on Fourth street just above Arch street. In 1852 he concentrated the two establishments at 130 Arch street. The present site of the Lucas warehouse and general offices, 322 to 330 Race street, and 141 and 143 North Fourth street, was first occupied by Mr. Lucas in 1863.

In his manufacturing enterprise Mr. Lucas associated with himself Joseph Foster, an old and experienced color manufacturer, who remained as a partner in the business until 1857, when he was succeeded by a brother of the founder, William H. Lucas, who took full charge of the sales and financial departments and gave the senior partner his desired opportunity to devote his entire attention to the chemical, experimental and manufacturing departments of the business.

In 1869 the New York branch was opened at 122 West Broadway, was later moved to 89 Maiden Lane, and a few years ago to its present location, 521 Washington street, where the company's export business is handled.

In 1900 an office and warehouse were opened at 1521 to 1533 South Morgan street, Chicago, and a factory in March, 1908. Five years later, to accommodate the business developed by this branch, a building was erected at 1336 to 1362 West Thirty-seventh street.

The New England office and warehouse were established in September, 1908, at 73 Sudbury street, Boston; and in 1910 a Pittsburgh branch was opened at 890 and 902 Second avenue, that city. The capital stock of W. W. Lawrence & Co., West Carson street, Pittsburgh, was purchased by John Lucas & Co., Inc., August 12, 1919. The name of the Lawrence company remains unchanged. It manufactures its own brand of paints and varnishes as well as others under the Lucas label.

In May, 1914, a Pacific Coast branch was opened at 425 First street, Oakland, Cal. Later a factory at West Berkeley, a few miles from Oakland, was purchased.

Following the death of the founder, John Lucas, in 1901, the business continued as a firm until it was taken over by the corporation, John Lucas & Co., Inc., on November 30, 1912, under articles of incorporation filed in 1910. The officers of the corporation are:—Joseph W. Lucas, president; Ernest T. Trigg, vice-president and general manager; James F. Lucas, secretary and treasurer, and Arthur Wrightson, assistant treasurer. The directors are:—Joseph W. Lucas, Ernest T. Trigg, James F. Lucas, John Lucas, Barton Lucas, John C. Gilmour and E. W. Storey.

BURGESS, FOBES CO.

Portland, Maine

The Burgess, Fobes Co., of Portland, Maine, which claims to be the largest paint and varnish manufacturer in the country east of Boston, is a concern dating back to 1832. It is a consolidation of the Burgess, Fobes Co., paint makers, and Aug. P. Fuller Co., varnish makers.

The paint business was started in 1858 by Samuel W. Wilson, on Commercial street, Portland. In 1859 Henry H. Burgess became a partner of Mr. Wilson, and in 1861 the latter sold his interest to Charles S. Burgess, the firm becoming Burgess Bros. in place of Wilson & Burgess. In 1863 Charles S. Fobes succeeded Charles S. Burgess, and the firm name became Burgess & Fobes, which with slight variations it has continued for a period of fifty-nine years. In 1867 Leander W. Fobes, brother of Charles S., on his return from China, where he had been in business, allied himself with the firm. A successful business followed without change in the personnel of the officers of the firm until the death of Mr. Burgess in 1893. In 1892 Leon M. Fobes, son of Leander W., entered the firm in the capacity of factory manager, and in 1895 Harold B. Fobes, son of Charles S., also became connected with the firm, taking an office position. Charles S. Fobes died in 1909 and Leander W. Fobes in 1914. The business had been incorporated in 1910, with Leander W. Fobes as president, and on his death Leon M. Fobes succeeded to the presidency, which office he still holds.

From Mr. Wilson's tiny store the paint business has expanded rapidly. The first factory was located on the corner of Wilson and Munjoy streets, Portland, and continued in operation until 1904, when the manufacturing departments were moved to 106 to 122 Commercial street.

The Burgess, Fobes Co. has enjoyed unusual loyalty on the part of its employes. Among those whose long records of service entitle them to special mention are Charles L. Jack, vice-president, who has been connected with the firm for fifty-six years; J. Fred Marston, salesman, whose services also date from 1866 and who is still traveling for the concern, and John F. Ahern, salesman, who was first employed in 1873.

The Aug. P. Fuller Co. was started by Joseph L. Kelly in 1832. Mr. Kelly was joined the next year by John Huse as partner. They were succeeded later by one of their clerks, August P. Fuller, who was in turn followed in the business by his son, A. G. Fuller, who died in 1908. The Aug. P. Fuller Co. had been incorporated in 1893 and the concern continued under J. Frank Massure as president. The Fuller plant is located at South Portland.

The official personnel of the Burgess, Fobes Co. at present is as follows, the dates in parentheses indicating the year when the officers, respectively, came into the firm's employ:—Leon M. Fobes, president (1892); Charles L. Jack, vice-president (1866); Harold B. Fobes, sales manager and treasurer (1895); Augustine L. Bowdren, secretary (1902); J. Frank Massure, superintendent of the varnish department and factory (1901); Theodore B. Fobes, superintendent of the paint department and factory (1917), and J. Hugh McCorkle, manager of the merchandise department (1920).

MEYER BROS. DRUG CO.

St. Louis, Mo.

As a St. Louis wholesale business, the Meyer Brothers Drug Co. was established in 1865. But as early as 1852 Christian F. G. Meyer had been in the retail drug business at Fort Wayne, Ind., and in 1857 had, with his brother, John F. W. Meyer, established there the firm of Meyer Brothers. The wholesale end of the business of this firm was developed in a conservative way at first, but as its growth encouraged the young men they sought a more central location and so moved to the Mound City just at the close of the Civil War. By 1889 the business of the brothers had so increased that the Meyer Brothers Drug Co. was incorporated with a capital stock of $1,750,000.

The founder of the house was born in Germany in 1830. He came to this country when seventeen years of age and

began to clerk in Reed's drug store, Fort Wayne. With a Mr. Wall, who had $500, Mr. Meyer formed a partnership, having to borrow $80 to make his interest in the $1,000 business equal his partner's. In five years Mr. Meyer bought Mr. Wall's interest for $10,000. It was after this transaction that J. W. F. Meyer joined his brother.

The present officers of the corporation are:—President, Carl F. G. Meyer; vice-presidents, Otto P. Meyer and Stanley B. Simpson; secretary and treasurer, William Biebinger, and assistant secretary and manager, Gustave J. Meyer.

SCHERING & GLATZ, INC.
New York

As far back as 1867 Hugo Schering, a distant relative of the founder of the Chemische Fabrik auf Actien (vormals E. Schering), of Berlin, in partnership with Joseph Glatz, chemist, founded the firm of Schering & Glatz. Its first offices were at the corner of William street and Maiden Lane, New York. In its earlier years it specialized in natural flavoring and perfumery oils from the Orient and also such products as Russian isinglass and similar materials for technical use. Later it introduced many medicinal chemicals to the profession in this country, and, in 1917, on account of war conditions, began the manufacture on a large scale of specialties which had previously been imported.

Upon the death of Mr. Schering, in 1890, C. G. Kolb, who had been in the employ of the concern since 1884, and M. F. Horner formed a partnership and continued the business. Mr. Glatz was active in the affairs of the concern only intermittently after the death of his old partner, and himself was killed by an explosion in his laboratory in 1905.

M. F. Horner, having retired in 1892, Carl F. Stiefel became a member of the firm, whose offices had been removed from their original location to 55 Maiden Lane. Several years later the offices were again moved, this time to 58 Maiden Lane.

Upon the retirement of C. G. Kolb at the end of 1909, Carl F. Stiefel became the sole owner of the business. Mr. Kolb died in 1919.

After forty-three years of uninterrupted business on Maiden Lane, between Nassau and William streets, Schering & Glatz moved, July 1, 1910, to the five-story building at 150 and 152 Maiden Lane, at the corner of Front street, owned by Mr. Stiefel, and since occupied entirely by his concern.

In 1915 Schering & Glatz were incorporated under the style of Schering & Glatz, Inc. The officers of the corporation, who also comprise its board of directors, are C. F. Stiefel, president; W. A. Stiefel and E. Samson, vice-presidents; C. Maisel, secretary, and F. Waechter, treasurer, all of whom have been associated in various executive capacities with the house for periods ranging from twelve to thirty years.

Manufacturing by the house was begun in its New York building, then it was carried on in a small plant at Long Island City, and now in a modern manufacturing building at Bloomfield, N. J.

C. J. LINCOLN CO.
Little Rock, Ark.

The C. J. Lincoln Co., of Little Rock, and its predecessors have been doing business in Arkansas since shortly after the Indians left. When Arkansas was a sparsely settled country, two years before it was admitted into the Union in 1836, the business now conducted by the C. J. Lincoln Co. was founded by S. H. Tucker. It has been in existence ever since, keeping pace with the progress of the State.

In 1865 Dr. C. J. Lincoln purchased an interest in the business, which was then conducted under the name of R. L. Dodge & Co. He was from that time connected with it until his death, December 25, 1910. Then the responsibility of conducting the business fell upon the shoulders of his son, Charles K. Lincoln, who had been brought up in it.

The C. J. Lincoln Co. was incorporated in 1889 and has shown a steady growth from a business of a few hundred thousand dollars annually to nearly a million and a half in 1920. The company occupies a four-story and basement building at 112 North Main street and has warehouse space beside.

The officers of the company are Charles K. Lincoln, president; Joseph H. Brown, vice-president and manager (connected with the business since 1890), and Lloyd J. Ashby, secretary, in charge of their large city business (with the company a quarter of a century). J. L. Bomar, sales manager, has been in the employ of the firm nearly twelve years.

WILLIAM ZINSSER & CO., INC.
New York

William H. Zinsser, grandfather of the present generation in control of the business of William Zinsser & Co., Inc., of New York, came to this country in the "golden forties" and started in a small way to bleach shellac and make shellac varnish. It is said that he was the first shellac bleacher and manufacturer in the United States. In 1849 he and one of his friends established the house of Zinsser & Scholl, which continued until 1856, when a new partnership, Zinsser & Marx, was formed. In 1865 this partnership was dissolved, and William Zinsser, with his brother, August, as William Zinsser & Co., began dealing in shellac, pitch, brewers' supplies, salicylic acid, waterglass, isinglass, sealing waxes, tannic acid, salad oil, soaps and numerous other products. In 1854 they received prizes from the Crystal Palace Exhibition at New York for their shellacs, French varnishes and sealing waxes. The Marx spoken of is he that helped to form the firm of Marx & Rawolle, as is mentioned in the sketch of that firm elsewhere in this article.

Later there was a division of the business. William Zinsser and his son William retained the brewers' supplies and shellac fields, while August Zinsser and his son, F. G. Zinsser, took over the chemical end and formed Zinsser & Co., at Hastings, N. Y., an entirely separate concern. This business, too, has grown tremendously and the third generation is represented in that concern by John S. Zinsser.

William H. Zinsser and his brother, Rudolph, of the third generation, came into the corporation of William Zinsser & Co. and began to concentrate on shellac. New processes of drying were inaugurated and enlarged facilities for handling the increasing business were provided at West Fifty-eighth street and West Fifty-ninth street, New York. When workmen were excavating for the new factory foundation, old brick walls were unearthed, deep down in the ground, and a few rusty bed springs, bits of leather and other materials were found, evidences of the fact that the ground had been filled in many years before.

In 1921 a branch factory and office were opened at Chicago. It is under the management of William H. Matthes.

The office and store of William Zinsser & Co., at 195 William street, has long been a landmark in downtown Manhattan. Here the retail store has existed for nearly three-quarters of a century.

F. O. PIERCE CO.
New York

William Anderson was a Scotchman. In the old country he was a color grinder. Naturally, when he came to America he continued at his trade. In 1847 he founded the business which is now conducted by the F. O. Pierce Co., of New York.

Frederick O. Pierce joined Mr. Anderson in 1862 to form the firm of Anderson & Pierce, and is still at the head of the business, active in his eighty-eighth year, and enjoying good health. In his early days as a member of the firm, Mr. Pierce called on local painters mornings and evenings when any were in, and secured their orders for his goods. The firm specialized on finely ground colors for use on window shades, safes and coaches. Mr. Anderson used to say that his paints were more finely ground than those of his competitors.

In the Civil War Mr. Pierce served with the famous Seventh Regiment of New York. Two years after the cessation of hostilities another man came into the firm, which then changed its name to Anderson, Douglass & Pierce. This concern was succeeded in 1870 by Anderson, Pierce & Co., who, in turn, the following year, were succeeded by F. O. Pierce & Co.

On December 31, 1896, the firms of Aquilla Rich & Co. and F. O. Pierce & Co. were consolidated to form the present corporation of F. O. Pierce Co. The company's first offices were at 170 Fulton street, New York. These offices, with the building, were destroyed by fire in 1907, and the company moved to 12 West Broadway, its present location. Its factories are at Brooklyn, N. Y., and Plainfield, N. J.

The present officers and directors have all been connected with the business since its incorporation in 1896. They are as follows:—President, Frederick O. Pierce; vice-president, Malcolm Graham, who began his paint career in 1894 as a member of the firm of Aquilla Rich & Co.; secretary, Jermain A. Spooner, who entered the employ of Anderson, Pierce & Co., February 28, 1872, as a clerk and has been connected with the business a half century; sales manager, Henry A. Fitch, who began his connection with the business in September, 1881, as a clerk; and treasurer and general manager, Andrew H. Schmidt, who began his business career with F. O. Pierce & Co. in 1885, as an office boy. Besides these, many clerks, salesmen and factory employes have been with the concern more than twenty-five years.

POWERS-TAYLOR DRUG CO.
Richmond, Va.

Richmond fell in 1865, and it is told that R. W. Powers was the first retail druggist there to get his store open and his business going after the evacuation of the Confederacy's capital. Mr. Powers had moved to Richmond in the early fifties and clerked in the drug store of Purcell, Ladd & Co. until 1860, when he had bought the store of Grayner & Wood. After the termination of the war Mr. Powers began a wholesale drug business, which, by 1867, had assumed proportions necessitating the engagement of larger quarters.

In 1872 E. D. Taylor joined Mr. Powers in the formation of the firm of R. W. Powers & Co. The business was incorporated in 1890 as the Powers-Taylor Drug Co. Mr. Powers died in 1907 and was succeeded as president of the corporation by Mr. Taylor. It is a happy memory of Mr. Taylor's that during the forty-two years he was associated with Mr. Powers nothing ever occurred to mar the pleasant relations which existed between them.

On February 20, 1912, Mr. Taylor celebrated the fiftieth anniversary of his entrance into business. At that time a local writer prepared an appreciation of his character as a business man which, with some omissions, follows:—

"There is no human quality, no policy or profession which may not be tested conclusively within the space of half a century. Five decades have passed since Mr. Taylor, as 'one of the most popular young men in the city,' was admitted to an interest in the business of R. W. Powers.

"The popular young man of fifty years ago has enlarged the interest to which he was admitted; he has extended the sphere of activity and authority that was then allotted to him. The dominance of his methods and his high principles of business has become supreme in the affairs of the firm.

"It is not inappropriate on the fiftieth anniversary of Edgar D. Taylor's admission to the business he now directs to reflect for a moment upon the spirit and principles that have induced one generation to beat a broad pathway to his door and another generation to accept the verdict of its fathers. The simplest and most direct language will serve; fifty years of success and growth represents the fruit of fifty years' adherence to a policy of giving the best. That policy, whenever and wherever it has been combined with a reasonable degree of business judgment and skill, has never carried any drug company or hardware firm or clothing store or any other mercantile business to failure. In the case of the Powers-Taylor Drug Co., because it has been practiced in this case with unbounded conviction and enthusiasm, this policy has scored one of its most convincing triumphs.

"The fundamental laws of business and human relations do not change. They are the same today as they were fifty years ago or 500 years ago. The methods which one of the city's most popular young men took to his firm in 1872 were good methods then; the beaten path and the throng that traverses it constitute unassailable evidence of the fact that those methods have suffered no touch of impairment."

The present officers of the company are:—President, Edgar D. Taylor; vice-president, Robert Lee Powers; secretary-treasurer, P. D. Powers; assistant treasurer, L. N. Fox. The place of business is at 9-17 South Thirteenth street, Richmond.

PARKE, DAVIS & CO.
Detroit, Mich.

The house of Parke, Davis & Co. was born in a drug store. This was back in 1862, when Dr. Samuel P. Duffield, who was both a physician and a pharmacist, started a modest manufacturing business in connection with his small store at Detroit. His equipment consisted of a still capable of turning out two barrels of alcohol a day, an iron ammonia apparatus, two ether stills, a drug mill and a hydraulic hand press.

The struggles of the next few years can well be imagined. Manufacturing pharmacy, as Dr. Duffield visioned it, did not exist, and it had slowly and painfully to prove its right to an existence.

In 1866 Hervey C. Parke was induced to join Dr. Duffield in forming the firm of Duffield, Parke & Co. A year later George S. Davis cast in his fortunes with the enterprise. Parke, Davis & Co. as a firm name dates from the year the Reporter was established.

The year 1877 witnessed the first profits earned by Parke, Davis & Co.

Research work early became one of the fundamental ideals and purposes of the house. If manufacturing pharmacy was to justify its right to existence it could do so only by giving the world something which it needed badly. New drugs, improved galenicals, more effective agents for the treatment of disease—to give the world these became the guiding purpose of the firm. Cascara sagrada was introduced by this house in 1877. Then followed a costly, energetic investigation of the medicinal flora of Mexico, the West Indies, Central America, South America and other foreign countries. Dr. Rusby's expedition into South America in 1885, and Count Hansen's explorations in the Fiji Islands, may be mentioned in this connection.

The next contribution to science had to do with standardization, the first standardized extract known to pharmacy having been introduced in 1879. But chemical standardization has its limitations; these were quickly perceived, and work was at once begun on establishing standards by physiological tests.

In 1897 the first line of physiologically assayed and standardized extracts was put on the market. Today not less than 1,100 preparations share in the vast improvement which chemical and physiological standardization have made possible.

The rapid development of serum therapy and biological medicine during the past twenty years has transformed and enormously expanded the work of the pharmaceutical manufacturer. Under this head may be mentioned in passing the introduction of Adrenalin in 1901 and Pituitrin in 1908.

In the clinical proving of new medicinal agents at the bedside and in the hospital, Parke, Davis & Co. have enjoyed since 1902 the valuable co-operation of thousands of general practitioners and specialists. Pending the completion of these clinical studies the preparation is never advertised and never sold.

Parke, Davis & Co. have been peculiarly fortunate in having at the head of its affairs men who have built wisely and well upon the solid basic principles laid down by the founders of the house more than half a century ago. Oscar W. Smith, now president, has been in the service of the house more than thirty years.

THE KALBFLEISCH CORPORATION
New York

For almost a century the name of Kalbfleisch has been intimately interwoven with the chemical industry of America.

The work begun by Martin Kalbfleisch in 1826 was carried on by his sons, one of them, Franklin H. Kalbfleisch, being the present chairman of the Board of Directors of the Kalbfleisch Corporation. The story is best told in connection with dates which mark the most important steps taken by this concern.

In 1828 Martin Kalbfleisch started the first plant of his own in Harlem, New York city, where Yellow Prussiate of Potash and Paris Green were first made in America. In 1837 he started a chemical and color plant at Norwalk, Conn. In 1841 he built a plant at Greenpoint, Long Island, where colors, chemical salts and acids were made. By 1851 the business had outgrown the Greenpoint plant and so was moved to Bushwick, where a much larger plant was built.

Between 1862 and 1867 Martin Kalbfleisch's four sons, Frederick, Charles H., Albert M., and Franklin H. Kalbfleisch became members of the concern. In 1869 the father retired and the business was continued under the name of Martin Kalbfleisch Sons. In 1893 Franklin H. Kalbfleisch established the business of the Franklin H. Kalbfleisch Co. In 1894 this business absorbed the Erie Chemical Co., with plants at Erie, Pa. In 1896 it acquired the business of the Joseph Binns Chemical Works. In 1898 it bought property and built a chemical plant at Elizabethport, N. J. In 1903 it purchased the plants of the Joseph Binns Chemical Co., at Brooklyn, N. Y., and Waterbury, Conn. In 1914 bauxite mines in Georgia and Tennessee were purchased, and the next year a plant was built at Chattanooga, Tenn. Finally, 1917 marked the incorporation of the present organization, the Kalbfleisch Corporation, which took over the Franklin H. Kalbfleisch Co.

The corporation produces heavy chemicals, including acids. Its officers are:—Chairman, F. H. Kalbfleisch; president, H. L. Derby; vice-president and treasurer, A. B. Savage, and secretary, A. C. Kalbfleisch.

PRATT & LAMBERT, INC.
Buffalo, N. Y.

A. W. Pratt, trading as A. W. Pratt & Co., began the varnish business in a modest way at Long Island City—now a part of New York—in 1849. He established an office at Fulton and Cliff streets, New York, in 1865. H. S. Lambert joined him in 1874 and acted as treasurer of the concern. They formed a corporation in 1885, since which time the style of the concern has been Pratt & Lambert, Inc. The original members of the firm have long since passed into the Great Beyond.

In 1876 the offices of the house were moved to 110 John street, and then to 5 Dutch street with, later, an entrance at 47 John street, adjoining. W. H. Andrews acquired a large interest in the business in 1891 and opened a Chicago factory. He came to the New York offices in 1894. J. H. McNulty joined the Chicago force shortly after the opening of the western factory.

In 1897 an affiliation of the American corporation with Robert Ingham Clark & Co., Ltd., a British concern, necessitated a reorganization of the former and resulted in a great expansion of its foreign business. The united interests own factories in London, Paris, Sydney, Buffalo, Chicago, New York and Bridgeburg, Canada. Upon the building of a large plant at Buffalo, the executive offices of the company were moved to that city, and in 1905 the New York branch office was established at 100 William street, whence it was moved to 185 Madison avenue in 1912.

Fire destroyed the Long Island City factory in 1906, but a larger and better one was at once erected in its place. In 1919 the New York office and factory were consolidated in a new building at Long Island City.

Mr. Andrews rose rapidly in the affairs of the company. He because successively its treasurer and general manager, then its president, and later chairman of its board of directors. J. H. McNulty also rose with considerable speed, his offices having included that of bookkeeper, Chicago manager, and treasurer and general manager before, in 1917, he became president. Vice-President J. N. Welter began to work for the Chicago branch of the company in 1895 and gained his present office in 1917. He is in charge of the western branch. In 1893 J. B. Bouck, Jr., came into the office as "boy," and by stages he rose to his present position as secretary-treasurer. The present general manager, A. D. Graves, began as a Pratt & Lambert salesman in January, 1908. After ten years he was called to Buffalo, where for three years he was sales manager, and in January, 1921, succeeded Mr. McNulty as general manager.

A number of the Pratt & Lambert employes have been with the concern from ten to forty years, and at least one, M. J. Hogan, joined the force forty-two years ago next June.

GEORGE A. KELLY CO.
Pittsburgh, Pa.

The present metropolis of Western Pennsylvania and the country's tenth city in size, was a town of 7,000 population when, on April 17, 1829, Benjamin A. Fahnestock opened a drug store there at the corner of Wood and Sixth streets. About 1840 Mr. Fahnestock's son, George W., joined him and the firm name became B. A. Fahnestock & Co. After the death of the father in 1862, the name of the firm became B. A. Fahnestock's Son & Co. The son died in 1869, but not before the business had passed into the hands of Fahnestock, Hazlett & Schwartz. Jacob Schwartz, later assisted by his son, J. E., managed the business until 1870, when the firm became exclusively engaged in the manufacture of white lead, and the drug end of the business was acquired by George A. Kelly.

Mr. Kelly was the son of a former British colonel, who had settled at Pittsburgh. As a young man he had been a drug clerk and in 1857 became part owner of a wholesale and retail drug business under the name of Beckham & Kelly, at Allegheny. Mr. Beckham retired at the outbreak of the Civil War and Mr. Kelly continued under the old name until 1865, when he moved across the river to Pittsburgh and engaged exclusively in the wholesale business. Mr. Kelly had the "chain" idea, and was interested in or owned three retail drug stores at one time. He disposed of these in the spring of 1868 and succeeded Woodside & Wallace in the wholesale business. Robert Snodgrass, a partner of Mr. Kelly's in this enterprise, withdrew after a comparatively short time and then came the absorption by Mr. Kelly and John P. Smith of the drug interests of the old Fahnestock concern. The business was moved to Wood street and First avenue.

Mr. Smith died in 1878, and his son, Van R. Smith, was admitted to the firm, but he, too, soon passed away at Denver. In 1888 Mr. Kelly's two sons, George A. and Samuel R., became interested in the business, which was then incorporated as the George A. Kelly Co. The senior member died in 1902.

At present the officers of the concern are:—President, George A. Kelly, Jr.; vice-president and treasurer, Samuel R. Kelly; secretary, C. A. Wood, and assistant to the president, W. W. Starkey.

SHERWIN-WILLIAMS CO.

Cleveland, Ohio

Henry Alden Sherwin was born in Vermont in 1842. Edward Porter Williams made his entrance into the world the following year, at Cleveland. Mr. Sherwin went West early in life where he met Mr. Williams, and they became partners in 1870 under the name of Sherwin-Williams & Co., which has grown into the corporation known as the Sherwin-Williams Co., with headquarters at Cleveland, and factories, warehouses, sales offices and similar branch establishments scattered over the globe.

Mr. Sherwin was in the business first. In 1866 he joined Truman Dunham and G. O. Griswold to form the partnership of Dunham & Co. A. T. Osborn joined the firm in 1869, and retired in 1882. The next year Mr. Dunham and Mr. Griswold retired and E. P. Williams became a partner. The firm name was changed to Sherwin, Williams & Co., Inc., in 1884.

A rapid chronological sketch of the development of the business of the concern follows:—In 1871, Murphy & Co., varnish manufacturers, of New York, became associated with the concern under the name of Murphy, Sherwin & Co., of Newark. This connection ceased in 1889. In 1873 William H. Glover became a member of the firm, but retired four years later. In 1880 S. P. Fenn and J. C. Beardslee were admitted to partnership. in 1888-89 the business of the Calumet Paint Co. was purchased.

Walter H. Cottingham became the Canadian agent for the Sherwin-Williams line in 1892, and two years later the Walter H. Cottingham Co. was formed to manufacture the line in the Dominion. In 1897 the Cottingham Co. was merged with the present company, and Mr. Cottingham became a director and was advanced to the general managership a year later. John F. Wood, who had come in as general manager of the Chicago branch in 1880, retired in 1899. Mr. Cottingham was made a vice-president in 1903. The stock of Lewis Berger & Sons, Ltd., of London, England, was purchased in 1905.

In 1909 there was a reorganization of the company, when Mr. Sherwin was elected chairman of the board; Walter H. Cottingham, president; S. P. Fenn, vice-president and treasurer, and A. W. Frank, secretary. Mr. Williams had died in 1903. Mr. Fenn retired from his office in 1913, and A. W. Frank became treasurer.

All these years the Sherwin-Williams Co. was opening new branches, increasing its manufacturing facilities and sending its salesforces into new territory the world over. Affiliated with it in addition to the Sherwin-Williams Co., Ltd., of Montreal, and the Berger concern of London, are the Acme White Lead & Color Works, Detroit; the Martin-Senour Co., Chicago; the Detroit White Lead Works, Detroit, and the United Paint & Varnish Export Co., New York.

Mr. Sherwin died in 1916, after having taken part in the Golden Jubilee of the company. The present directors are W. H. Cottingham, S. P. Fenn, G. A. Martin, H. D. Whittlesey, W. B. Albright, E. M. Williams, E. M. Richardson, Z. E. Martin, Thomas Neal and J. C. Beardslee. The officers are W. H. Cottingham, president; G. A. Martin, general manager; S. P. Fenn, vice-president, secretary and treasurer; H. D. Whittlesey, vice-president and managing director of sales; L. H. Schroeder, assistant treasurer, and H. J. Douglas, comptroller and assistant secretary. The Board of Managers consists of W. H. Cottingham, H. D. Whittlesey, H. J. Douglas, C. G. Bull, H. J. Hain, G. A. Martin, J. O. Hasson, Frank Hemingway and H. Campbell.

STAFFORD ALLEN & SONS, LTD.

London, England

William Allen was the first president of the Pharmaceutical Society of Great Britain, and one of the founders of Stafford & Sons, Ltd., of Great Britain's capital city. In 1833 the business, now conducted under the name just mentioned, was established by May & Allen, drug millers, in a factory which now forms a part of the plant of their successors.

In 1843 the firm acquired the laboratories and drug firm established in Bedfordshire during the previous century by Charles May's predecessors, and the name became S. & G. Allen. This business was later moved to Suffolk and finally became incorporated with that of the London house.

Both the plant and the varieties of business transacted in it have expanded in a remarkable manner during the nine decades that have elapsed since the formation of the original firm, and now in British drug circles the present limited company is, perhaps, regarded more as an institution than as a commercial enterprise.

MARX & RAWOLLE, INC.

New York

Frederick Marx came to the United States in 1849 from Mainz, Germany, where he had established a small sealing-wax and varnish factory after an apprenticeship in the varnish factory of his cousin, Ludwig Marx. Almost immediately he started a similar business in this city.

In 1856 Mr. Marx formed a partnership with William Zinsser, grandfather of the present generation of Zinssers, who are now extensively engaged in the shellac and varnish business, as set forth elsewhere in these historical sketches. The business was conducted under the name of Zinsser & Marx and was confined to the manufacture of shellac varnishes, sealing wax and kindred articles, and was located in what was then known as the village of Bloomingdale, on the north side of Fifty-ninth street, west of Ninth avenue. Each partner purchased a plot of land upon which he erected his dwelling, and these dwellings were first used also for factory purposes. The firm subsequently erected a factory adjoining these properties and here the business continued for a number of years. Later Mr. Marx was induced by Philip Wagner to experiment in the refining of glycerin, and in his experiments he expended a considerable amount of time and money. Mr. Zinsser desired to confine his activities strictly to the shellac and varnish business while Mr. Marx wanted to branch out into glycerin and refining, so the firm was dissolved and each partner established his separate business in 1865.

Mr. Marx continued alone for a few years and then, in 1871, formed a partnership with Frederick Rawolle, also a native of Germany, who had come to this country in the year 1849, when only seven years old.

Mr. Rawolle had received his early education entirely in this country and had been graduated with high honors by the Free Academy (now known as the College of the City of New York) as a civil engineer. He had followed his profession, and during 1861-62, with another engineer, had surveyed Prospect Park, Brooklyn. He had then gone to South America, where he spent most of his time in Peru in his professional capacity. Later he had gone West, where he also had followed his profession until the latter part of 1870, when he had returned to New York.

The firm now was known as Marx & Rawolle. The shellac, varnish and sealing-wax business was continued and prospered, while glycerin refining became more extensive and flourished.

In 1881 the glycerin refining plant, which was still located at Fifty-ninth street and Ninth avenue, was destroyed by fire. Immediately the loss of material and the removal of so important a factor caused the price of glycerin to make a big spurt. A new refinery was erected on the waterfront in South Brooklyn, at Irving and Van Brunt streets. This factory and refinery still remains and, with additions occupies approximately half a city block.

The partnership of Messrs. Marx & Rawolle continued harmoniously until the death in 1901 of Mr. Marx. This death was quickly followed by that of Mr. Rawolle in 1903. From the latter date to 1905 the executors of the two estates supervised the conduct of the business. Fortunately the business was well organized with capable and loyal men at the head of every department, most of whom had grown up in the business. Among these were Henry Calder, Dr. Arthur C. Langmuir, George F. Henry, Marcus P. Flack and John A. Stoner. The business was transferred in 1905 to a corporation organized under the name of Marx & Rawolle, with a capital of $1,000,000, and the old employes mentioned became stockholders and officers. They were joined by Charles J. Buchanan, an Albany attorney, who was one of Mr. Rawolle's executors, who became president of the corporation. Frederick C. Rawolle, a son of the original Frederick Rawolle, became and still is vice-president of the organization.

In 1909 the company bought the business of Hoople & Nichols, which had been a substantial figure in the shellac and varnish business for a great many years, the senior member of that firm having died. This purchase involved over $1,500,000. With the business thus acquired Marx & Rawolle took a foremost position in the varnish and allied lines, which they continue to hold. It is also, perhaps, the largest refiner of glycerin in the United States. Branch plants are maintained at Chicago and Montreal.

Death and retirements have in recent years made changes in the company's personnel. George F. Henry, who for many years was concerned with the business as salesman and later as secretary and a director of the company, died in 1908. Charles J. Buchanan died in 1915, and Marcus P. Flack, a member of the Board of Directors, in 1917. Henry Calder, who came into the concern as an office boy in 1882 and became the first treasurer of the corporation, died in 1919 while still in that office. John A. Stoner, who succeeded Mr. Calder as treasurer, and who had been with the company since 1902, retired in 1920 and is now enjoying a long planned trip around the world with his wife. Dr. Arthur C. Langmuir, who was the chief chemist of the company and who has for many years been an authority on chemistry of international reputation, and who had been with the company since 1901, retired in 1920 and now occupies a chair at Columbia University.

Today Frederick C. Rawolle, the only surviving son of the original Frederick Rawolle, is the active head of the business, which he entered in 1903 immediately after his father's death.

An outline of the history of the Marx & Rawolle would be incomplete if it contained no mention of Frank J. Wood, a mechanical genius who has had charge of the refining processes of the company's glycerin plant, and who invented a process of refining which has greatly reduced the cost of production. This process is installed in both the Brooklyn and Montreal plants of the company and is also used under license by a large refiner in England.

CHARLES PFIZER & CO., INC.

New York

Now in the seventy-third year of its career, the house of Charles Pfizer & Co., Inc., of this city, can look back upon a career of uninterreupted usefulness and forward to a successful future. When the business was established in 1849 this city had something less than half a million inhabitants, and such industries as are of a scientific and technical character were in their pioneer stage. The founders of the business, Charles Pfizer and his brother-in-law, Charles F. Erhart, possessed an unusual knowledge of chemical principles and processes, and combined technical and practical skill with business ability and integrity. They began operations on a modest scale in Brooklyn, their plant then finding ample room on an ordinary corner lot. The manufacture of santonin and a few other small chemicals was all that was attempted at the outset, but the expansion of the business, slow at first, has been steady and continuous. The large works of the concern, covering a tract of five acres in Brooklyn, have an output which includes a large and general line of chemicals for medicinal and technical uses.

The founders continued as active heads of the business until Mr. Erhart died in 1892. Mr. Pfizer then directed its affairs until his retirement in 1900. Their successors in the management are highly trained in the business and in the conduct of its affairs, keeping before them the high ideals of efficiency and probity set by the founders. In 1900 the business took its present corporate form and the officers now are:—Chairman of the board, John Anderson, whose connection with the house has been continuous from his boyhood; president, Emile Pfizer; vice-president, William H. Erhart; treasurer, George A. Anderson, and secretary, Franklin Black.

In its earlier years the office location of the business was on Beekman street, but since 1868 (for over fifty-three years) the present premises at 81 Maiden Lane have been continuously occupied by the concern.

The plant in Brooklyn includes a complete equipment for the manufacture of from 300 to 400 articles used in medicine, pharmacy and the arts.

POWERS-WEIGHTMAN-ROSENGARTEN CO.

Philadelphia, Pa.

Two of the oldest concerns engaged in the manufacture of fine medicinal chemicals in the United States amalgamated in January, 1905, to form the Powers-Weightman-Rosengarten Co., of Philadelphia, with branches at New York and St. Louis.

The older of these two concerns, Powers & Weightman, was established at Philadelphia in 1818 by Farr & Kunzi. One of the original partners, Abraham Kunzi, a Swiss by birth, retired in 1838, whereupon the remaining one admitted into partnership two of his young employes, Thomas H. Powers and William Weightman, the style of the new concern being John Farr & Co. This was changed to Farr, Powers & Weightman and so remained until the death of Mr. Farr in 1847, at the age of 56, when the firm of Powers & Weightman—so favorably known in the chemical industry for more than half a century—came into existence. Mr. Powers was born in 1812 and died in 1878. Mr. Weightman was one year his junior, but out-lived him 26 years, dying in 1904.

The house of Rosengarten & Sons, Inc., began its long career but a few years later than did the concern with which it amalgamated. Seitler & Zeitler, respectively Swiss and German, engaged in the manufacture of chemicals in 1822. George D. Rosengarten, a German, was employed by the firm as an accountant, and on December 1, 1823, became a partner of Carl Zeitler under the firm name of Zeitler & Rosengarten. The junior partner bought the interest of the senior in 1824, and, as the business grew, he employed his cousins, Samuel and Herman Rosengarten, to help him conduct it. From February 15, 1836, to March 10 of the same year the business was conducted under the firm name of George D. & S. Rosengarten. In 1840 N. F. H. Denis, a French chemist who had been in the employ of the house for five years, became the junior partner in the firm of Rosengarten & Denis and so continued until 1853, when he withdrew. Two sons of George D. Rosengarten, Samuel G. and Mitchell G., succeeded Mr. Denis, and the firm name became Rosengarten & Sons. H. B. and Adolph G. Rosengarten were admitted to the firm in 1860.

In 1879 the elder Rosengarten retired from the business with which he had been identified for fifty-six years. He died in 1890 at the age of eighty-nine years. The year that the senior partner retired, Frank H. Rosengarten became a member of the firm. Mitchell G. Rosengarten died in 1898, and Samuel G. and Frank H. retired from the business the same year. This left H. B. Rosengarten and his two sons, George D. and Adolph G., in charge. In 1901 the house secured a charter under the name of Rosengarten & Sons, Inc.

Powers & Weightman and Rosengarten & Sons, Inc., formed a coalition in 1905 under the name by which the combined businesses have since been carried on. It is interesting to note that both concerns had been making quinine sulphate as early as 1823, just three years after the first separation of the alkaloid by Pelletier and Caventon. The salt sold for about $16 an ounce at that early date.

H. B. Rosengarten died February 19, 1921, at the age of eighty-four years, since which time the business of the corporation has been continued under the presidency of A. G. Rosengarten.

J. S. YOUNG CO.

Hanover, Pa.

Beginning with a drug mill at Hanover, Pa., in 1867, John S. Young built up a business which has been enlarged and extended by his son and grandson until today it embraces plants for the manufacture of natural dyeing and tanning materials, as well as of licorice paste, on the orginial site and at Shrewsbury, Pa., as well as at Baltimore, Md. and Charlottesville, Va.

Two years after launching in business Mr. Young, in collaboration with several members of the Boston Dyewood & Chemical Co., built a mill at Shrewsbury, Pa., which was operated by the Shrewsbury Mills Manufacturing Co. In 1873 the Shrewsbury Co. was succeeded by J. S. Young Co., Ltd., which, in 1913, was incorporated as J. S. Young & Co.

In 1882 the founder of the business, in conjunction with his son, Howard E. Young, built a factory at what was then known as Canton, on the outskirts of Baltimore. The business of this factory was subsequently separately incorporated and is now known as the J. S. Young Co.

During the year 1916 a factory was built at Charlottesville, Va., by H. E. Young & Co., a corporation which has been absorbed by the parent company, J. S. Young & Co.

Howard E. Young, an only son of the founder of the business, is now president of the Young companies and has associated with him in the business his only son, the namesake of his grandfather, John S. Young, Jr., who is vice-president of the J. S. Young Co., of Baltimore, and treasurer of J. S. Young & Co., of Hanover.

BIRD & SON, INC.

East Walpole, Mass.

In the century before the last, when George Washington was President of the United States, George Bird, a native of Maine, moved to Massachusetts to engage in paper making. He purchased a mill site in the towns of Needham and Dover in 1795, and four years later sold a portion of his mill in Needham. In 1803 he purchased at Dedham another water power and paper mill, which he operated until 1811, when it was destroyed by fire. In 1812 he purchased water power rights and land on the Neponset River, at Walpole, Mass., and the business now carried on by Bird & Son, Inc., has been located on this land since that date.

Francis William Bird, son of George Bird, was born at Dedham in 1809. After going through college he purchased, in 1834, the business owned by his brother, Josiah N. Bird, who had taken over one of the mill properties of their father. In 1838 F. W. Bird acquired the property owned by the Neponset Paper Co., at Walpole, and formed a partnership with his father, the style of the firm being George Bird & Son. After the dissolution of this firm the business was owned and managed by F. W. Bird.

In 1871 Francis W. Bird, Jr., eldest son of Francis W. Bird, came into the business. He died in 1874. In 1877 Charles Sumner Bird, second son of Francis W. Bird, entered the business, and soon afterwards was admitted to partnership under the firm name of F. W. Bird & Son. In 1880 their mills were destroyed by fire, but larger ones were immediately built.

Francis William Bird died in 1894. The business was then purchased by Charles Sumner Bird and was carried on by him without partners until January, 1913, when he formed a partnership with Charles Sumner Bird, Philip R. Allen and Charles S. Bird, Jr., under the name of Bird & Son. In 1918 Mr. Bird's eldest son, Francis William Bird, came into the business. He died shortly thereafter, and on May 10, 1918, the firm of Bird & Son was incorporated.

As the years rolled on and brought their changes in personnel the manufacturing facilities of the concern grew also. From time to time mills were built or bought at Norwood, just over the Walpole line; at Hamilton, Ont.; Pont Rouge, Que., and Phillipsdale, R. I. In these mills roofing papers, felt papers and paper for floor coverings are manufactured on a large scale. The company maintains branch offices at New York, Chicago and Hamilton.

C. A. WOOLSEY PAINT & COLOR CO.

Jersey City, N. J.

From ship chandlery to making paints for ships is not such a long step, and from making paints for ships to making paints and varnishes for houses and coaches and for general purposes is an even shorter one. It is perhaps not too much to say that Woolsey's copper paints for the bottoms of wooden ships are favorably known and sold in every country where the wooden bottoms of ships are painted, and the Woolsey general line is in wide demand.

The C. A. Woolsey Paint & Color Co., of Jersey City, N. J., was established by C. A. Woolsey, who began in the ship chandlery business in 1853. He was markedly successful in his original vocation, and having a large and valuable acquaintance among the owners of vessels, in 1870 he began to manufacture paints for this trade, first taking as a partner his brother, Frank Woolsey. The brothers bought the stock and machinery of Hugh Douglas, of Center street, New York, and gradually branched out into the manufacture of a general line of paints and varnishes.

In 1890 the company was incorporated. C. A. Woolsey died in 1895, and in 1903 Frank Woolsey, with Harry Louderbough, bought the interests of the estate in the business and secured a new charter. Mr. Louderbough was elected president, and Mr. Woolsey treasurer and general manager. Mr. Louderbough died about seven years after the reorganization of the business, whereupon Mr. Woolsey became president as well as general manager, which positions he still holds. Under his administration the business has grown amazingly, and the plant has been enlarged several times to keep pace with this growth.

INNIS, SPEIDEN & CO.

New York

In 1816 Indiana emerged from the wild condition, in which it was peopled largely by warlike Indians and French traders and messionaries, and became a sovereign State of the Union. At that time, too, Napoleon was "thinking it over" on St. Helena. Another important event of that year was the beginning, by Nathan Gifford, of cutting dyewoods near the village of Poughkeepsie. The importance of this even was not realized at that time by the world at large, but Mr. Gifford knew that it meant much to him. He needed the money. Indeed, he soon found that he needed more money, to carry on his business successfully, than his individual resources afforded, so he went to Aaron Innis, a leading merchant of the village, for financial assistance. Mr. Innis became a silent partner in the Gifford dyewood business. Along about 1840 Mr. Innis acquired a son-in-law, Howland R. Sherman. Being a young man Mr. Sherman was not as silent as his father-in-law, so the firm of Gifford & Sherman came into existence. Some four years later George Innis, his father having died, entered the business and the firm name became Gifford, Sherman

& Innis. Mr. Gifford's interests were purchased by the brother-in-law about 1849.

In 1858 Mr. Sherman died, and George Innis continued the business alone for twenty-six years, under the old three-ply firm name. Hasbrouck Innis, only son of George, and William R. Innis, only son of George's brother, Aaron II, acquired the business in 1885, and conducted it under the style of Innis & Co. until 1904. In that year George V. Sheffield bought the holdings of the Innis' cousins and for two years traded as Innis & Co. At the end of that time C. C. Speiden and M. Speiden joined Mr. Sheffield in forming the firm of Innis, Speiden & Co., successors to the old concern. This firm was incorporated the same year. The present directors of the corporation are George V. Sheffield, W. H. Sheffield, C. C. Speiden, C. C. Wickstead and C. E. Speiden.

As the business grew from the small beginning at Poughkeepsie and the personnel underwent changes, New York headquarters were secured. These, in turn were changed from time to time in order that an increasing volume of business could be handled with becoming expedition. At first desk rooms on West street, between Barclay and Vesey street, was all that was necessary; then, in 1850, a store and office were secured at 27 Barclay street. Several other changes were made before the company moved into its own extension building at 46 and 48 Cliff street, which it did in 1907. These included the tenancy of 83 Murray street from 1858 to 1860; 120 William street from that time to 1898; 3 Cedar street from the latter date to 1903, and 181 Front street from 1903 to the move which brought it to the Cliff street address. The company also mantains branches at Boston, Philadelphia and Chicago.

H. KOHNSTAMM & CO.

New York

Seventy-one years ago Joseph Kohnstamm, of New York, who had for some time previously done business as an importer of fine colors, (his office being at his home on William street, at that time a residential district) was joined by his brother, Hesslein, and leased the store at 3 Tryon Row (where the Municipal Building now stands). The business has continued much along the same lines ever since, with but few changes in the firm's name. Joseph Kohnstamm was succeeded by H.-Kohnstamm, and he, in turn, by H. Kohnstamm & Co., in 1876. There have been very few changes in location, the present one being not far from the original, although the building, from 83 to 93 Park place, presenting quite a contrast. A photo of Tryon Row alongside of a medal which was awarded in 1853 at the Crystal Palace Exhibition, occupies a place of honor in the office of the concern.

The present firm comprises six members, all of whom have been connected with it over thirty years; the two older members fifty years and over.

The first manufacturing done by H. Kohnstamm & Co., was in 1880. From that time on the manufacturing end of the business has been pushed energetically and importing correspondingly diminished, so that for a number of years the importing department has been of secondary importance.

In 1906 a block 440 by 200 was bought on Columbia street, Brooklyn, where the present factory was built. For a number of years the firm was interested in a corporation having a factory at Camden, N. J., and this factory it now operates.

E. DeHAEN CHEMISCHE FABRIK LIST

Seelze, Germany

The chemical works of E. DeHaen Chemische Fabrik List had their beginning in an old barn in the village of List, near Hannover, Germany, where, in 1861 Dr. E. DeHaen started the manufacture of inorganic chemicals for pharmaceutical and technical purposes. The concern grew quickly with the general development of the chemical industry and added new buildings to the original plant.

About the end of the century it became clear that the original site at List did not offer sufficient room for needed development. A new site was selected at Seelze, about seven miles from Hannover, and the building of a new factory begun. In 1902 all the factories had been transferred to Seelze.

The founder of the firm, Dr. E. DeHaen, was able to celebrate the fiftieth anniversary of his business in 1911. Since his death a few years later, its sole management has been in the hands of Dr. W. DeHaen, the son of the founder, who had been associated with his father.

Agents all the world over take care of the distribution of DeHaen products. In the United States the agent is Pfaltz & Bauer, Inc., of this city.

BLIVEN & CARRINGTON, INC.

New York

H. S. Carrington, president of Bliven & Carrington, Inc., of New York, is at the head of a business established by his grandfather, J. H. Carrington, in 1870. Henry P. Carrington, son of the founder, became a partner in the business, and, upon the death of his father, with J. B. F. Bliven and J. A. Fussell, formed the firm of Bliven, Carrington & Co. to continue it. Mr. Fussell withdrew from the firm and Mr. Bliven died in 1896, leaving Mr. Carrington to carry on alone, which he did, under the old firm name, until the following year, when H. F. Cokefair, who had been a salesman for the house, joined him, as did W. H. Douglas, the latter as a special partner.

The two new partners withdrew in 1900, and again Mr. Carrington went it alone, this time until the formation of the present corporation in 1906, with Mr. Carrington as president and M. C. Landau as secretary and treasurer. Mr. Landau, incidentally, had been with the house since 1894, when he joined the staff as foreign correspondent.

H. P. Carrington died in 1912, and was succeeded at the head of the house by his widow, Mrs. E. A. Carrington. At the same time their son, H. S. Carrington, was made secretary, while Mr. Landau held his office as treasurer and also was made general manager. In 1919, upon the promotion of H. S. Carrington to the vice-presidency of the corporation, Mr. Landau again became both its secretary and treasurer, retaining also h general managership. Mr. Carrington, above stated, is now the president of t company, he and Mr. Landau being i only officers.

When the concern began business it office was on Water street, near Maide Lane. From there it moved to 251 to 2 Front street; thence, in 1904 to 1 Broad street; in 1914 to 125 Broad stre and in 1917 to its present location at Moore street. It is interested in fineries at Warren, Pa., and an oil lubricant factory at Bayway, N. J.

MERRIMAC CHEMICAL CO.

Woburn, Mass.

Seventy years ago the Merrimac Chemical Co. built its first factory at Woburn, Mass. At this site the company now owns 400 acres of land and operates a plan comprising over seventy-five buildings f the manufacture of mineral acids an heavy chemicals. A research laborator said to be the largest of its kind in Ne England, forms a part of this plant.

In 1917 the Merrimac Chemical C purchased the Cochrane Chemical C which had begun business in 1847 in small way at Malden, Mass. This bus ness is now carried on at Everett, o the Mystic River, with a plant of mor than fifty up-to-date buildings. Here the company has built and operates equipment capable of unloading ocean-going steamships. During its career of three score and ten years the company has been a leading factor in the chemical industry in New England.

The Oil, Paint and Drug Reporter

Is Relied Upon by Every Branch of the Chemical, Dye, Paint, Oil, Drug, Fertilizer, Naval Stores, and Allied Industries for

Accurate Market Information

Subscription Price:
Domestic, $5.00; Canada, $7.00; Foreign, $10.00 a Year

Advertising Rates Furnished on Application

100 William Street New York City

FREDERICK W. WHITE
PRESIDENT

SUMNER W. WHITE
VICE-PRESIDENT

J. T. BULLWINKEL
TREASURER

PETERS, WHITE & CO., Inc.

Ye Editor of Oil, Paint and Drug Reporter says as our company is only 48 years old, we are too young for a Semi-Centennial Number. We appreciate the compliment to our youth.

BICARBONATE OF SODA
CAUSTIC POTASH
CAUSTIC SODA
CARBONATE OF POTASH
MURIATE OF POTASH
MENHADEN FISH OIL
PRUSSIATE OF SODA
SULPHATE OF AMMONIA
SULPHATE OF POTASH
SUPERPHOSPHATE
SULPHURIC ACID
SODA ASH

110 WILLIAM ST. NEW YORK, N. Y.

CABLE—PETERS N. Y.

20 Mule Team Products

MANUFACTURERS OF

Ammonium Borate
Borate of Manganese
Borax, Calcined
Borax Soap Chips
Borax, Fused
Borax, Refined
Borax Soap
Borax, U. S. P.
Boric Acid, Anhydrous
Boric Acid, U. S. P.
Boric Acid, U. S. P. Granulated
Boric (Boracic) Acid Refined
Muriate of Potash

Refined Borax
Crystal, Granulated, Powdered

This product is guaranteed 99½% pure, and is suitable for the manufacture of enameled ware, glass, bath tubs, pottery, gloss starch, leather and dyes; also for preserving food, such as hams and bacon, etc., for the British Government.

Borax, U. S. P.
Crystal, Granulated, Powdered

This grade of Borax suitable for all pharmaceutical and medical purposes.

Fused Borax

This product is also known as Borax Glass and Anhydrous Borax. It is used in crystal, granulated and powdered form as a flux in refining refractory ores, in mineralogical determinations, also for brazing brass tubing.

Boric Acid, Anhydrous

Used as a flux and is also known as boric acid glass.

Ammonium Borate
Powdered

Muriate of Potash

For fertilizing purposes.

Calcined Borax

This product is used as a flux.

Borate of Manganese

A dryer for inks, varnishes, paints, etc.

Refined Boric (Boracic) Acid
Crystal, Granulated, Powdered

This product is 99½% to 100% pure H_3BO_3. It is used for making glass and pottery ware, brazing tubing for automobiles, and is also allowed to be used as a preservative for codfish.

Boric Acid, U. S. P.
Crystal, Granulated, Impalpable, Powdered

For pharmaceutical use where a product free from borax, chlorides, sulphates, heavy metals, etc., is required. The granulated form is advocated when a solution is desired. It is largely used to make efficient eye lotions.

Granulated Boric Acid, U. S. P.

Is a new form of Boric Acid which will dissolve more readily than any form hitherto introduced. The granules being porous dissolve almost instantly, making a solution in the shortest time possible.

Borax Soap

An excellent soap containing Borax.

Borax Soap Chips

Contains 30% of Borax, which makes it an excellent cleanser.

20 Mule Team Brand Granulated Boric Acid, U.S.P.

Is a new form of Boric Acid which will dissolve more readily than any form hitherto introduced. The granules being porous they dissolve almost instantly, making a solution in the shortest time possible. Your attention is called to the fact that this Granulated Boric Acid is guaranteed U. S. P.

PRICES SUBMITTED ON APPLICATION

SAMPLES GLADLY FURNISHED

Pacific Coast Borax Company

CHICAGO — 100 WILLIAM STREET, NEW YORK — SAN FRANCISCO

Cable Address: Boracic